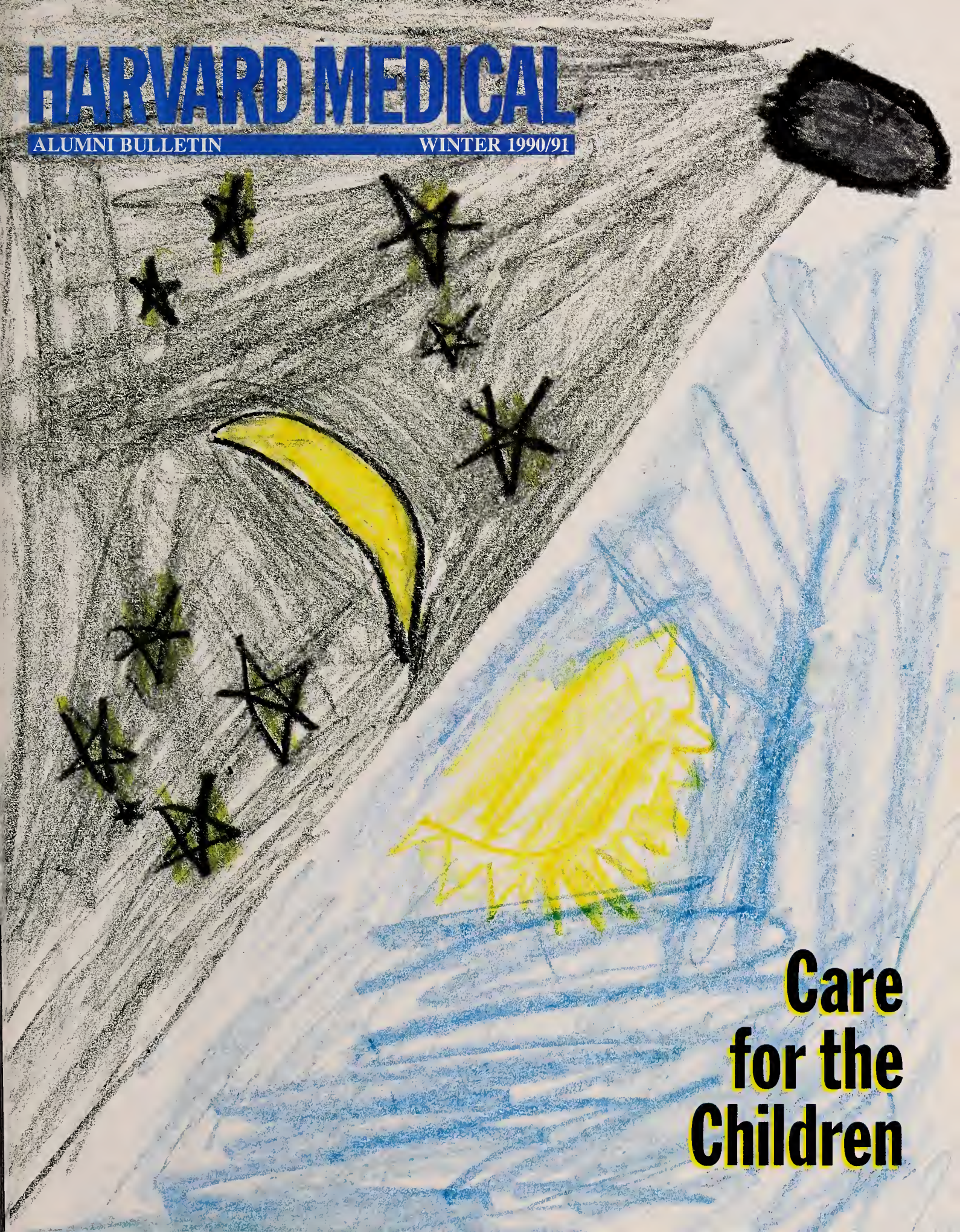


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ALUMNI BULLETIN

WINTER 1990/91



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Cover: Illustration by an Israeli boy shows night and day separated by the presence of God. This illustration is one of a gallery inside, presented with an essay by Robert Coles, MD.

INSIDE H.M.A.B.

Magazine editors sometimes jest that the publication of an issue is the like the birth of a baby—a product of conceptualization, gestation, and a lot of labor. But as I have found out the past year and a half, having a real baby is a lot harder!

This issue is about children, their care and development, or lack thereof. We start at the too-early beginnings with an account by Mary Ellen Avery and Marie McCormick of prematurity and the success of neonatal intensive care units. T. Berry Brazelton takes us through some developmental milestones and issues faced by working parents. And in his essay, Harvard University psychologist Jerome Kagan defines the grounds for introversion and extroversion.

Our color centerfold is fit for a refrigerator door: children's illustrations collected over the past 30 years by Robert Coles, along with his essay on how illustrations reveal "children as budding visionaries." We reprint excerpts from a recent novel by Perri Klass '86, about a woman pediatrician who juggles care of her patients, her own child and her husband.

Assistant editor Terri Rutter profiles Holmes Morton '83, whose diagnosis of a rare genetic disorder among Amish children two years ago has led to a new clinic for these children—and new hopes. We describe the New Pathway way to teach pediatrics: the new women's and children's health clerkship now covers societal problems; so do we, though only scratching the surface.

Gloria Johnson-Powell, a new HMS professor of child psychiatry, writes about urban violence. Janine Jason '75 urges us not to hide behind the imagined safety of being a "have" versus a "have-not." And on AIDS: Robert Sege '88, a resident at Children's Hospital, describes one child with the disease that's now a chronic fixture on the pediatric wards as well.

On the lighter side, Jordan Smoller '92 has written the definitive paper on the syndrome "childhood" and how to treat it. With great care, we hope.

—Ellen Barlow

HARVARD MEDICAL ALUMNI BULLETIN

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LETTERS

Psychiatrists Left Out?

Since Karl Menninger '17 (R.I.P.) joined the chorus of praise for the 'Religion' issue (Winter '90), I felt that I must in some way reassess my feelings based on my first reading. Having reviewed it again, I still have the sense that something is missing.

As students in the decade following Peabody's publication, we were enjoined to read it and, to some extent, carry out his prescription in the care of our own patients. Battered as we were by other demands of the curriculum, I suspect we did not pay too much attention to his little book, but I have a copy, bought at the time, and it is a constant reference.

Over the years I have continued to wonder why his clear and simple message did not take. My own training in psychiatry, which taught me something about the feelings and concerns of patients, seemed to reinforce what he was saying. In those years, however, there was an emphasis in psychiatric training that gave us an increased knowledge of ourselves and our feelings, which made the care of patients even more humane.

Over the years, the relationships between psychiatric and other medical faculties have been somewhat formalized into consultation/liaison activities, but the message of our relation to patients stays the same; the more one knows about oneself, and about the reactions of patients of all sorts to their lives and their illnesses, the better the medical care.

What is missing to me, then, in a medical school replete with good departments of psychiatry, is the lack of representation of that discipline in the "Agreeable Conversation" on religion and medicine. The content and knowledge embraced in the learning of psychiatry brings a medically scientific reality to the bedside problems so well expressed by Loring Conant and others.

True, Robert Coles contributed a meaningful vignette from his clinical practice, but he, or someone in the discipline, might well have been a member of the conversation.

Having been involved in the last decade in the selection and processing of priests for the Episcopal Diocese of Washington, I have shared the priests' experiences and training. But it has been my medical and psychiatric background that has made it possible for me to participate in this endeavor. My knowledge seems both welcome and useful. My clinical experiences test our shared approaches, and we come to solutions using learning and research.

It was emphasized that the practices of religion and medicine both involved caring and healing. In medicine we have gone beyond intuition in the healing aspect of care. We are in a position to use our knowledge to do the same in the caring aspect.

If we are to "come back together" as Peter Gomes suggests, it will be easier if we utilize the full extent of our clinical skills. More knowledge of the psyche—feelings, emotions, and behaviors—exists than was suggested in the conversation. Let us use all of our talents.

—Henry H. Work '37

One of the problems we faced in putting this conversation together was to limit the size of the group to a conversational dimension but larger than a panel. The idea came from a report on the United Ministry in the Harvard University Gazette, which accounted for four of the participants, and of course left out Islam, Buddhist and Hindu. It also left out the agnostic/atheist/Enlightenment people. We had to have medical students to keep the project relevant to the medical school. One of the students hailed from Sri Lanka, brought up in the traditions of Eastern thought. We tucked in one gen-

eral medical man to give the occasion balance.

What to do about psychiatry? Dorothy Austin of the Erickson Center was there to fill the void, though indeed she rides two horses. We had Bob Coles supplying a companion piece. Carola Eisenberg, who was aware of what was going on, was happy to comment on the conversation from the point of view of the Quadrangle.

So that's how we left it—aware that there were gaps, but doing what we thought practical. And thought-provoking.

—JGS

Borrowed Soil

An interesting anecdote regarding the *Harvard Medical Alumni Bulletin* Summer '90 article about the guillotine

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concerns the French General Marquis de Lafayette, who fought under George Washington during our American Revolution of 1775. Lafayette helped supply the American army with money and war supplies in addition to being commander of the French troops, which helped us to win the war.

When he returned to France at the end of our revolutionary war, France was starting her own revolutionary war of 1780. Many of France's nobility were executed by the guillotine. Lafayette's wife belonged to the nobility, and several members of her family were beheaded.

After beheading, the bodies were tossed into two-wheeled carts and taken to various vacant areas in and around Paris for burial. Lafayette's wife located the place where her family was buried, and she and her husband bought a small piece of land, about 15 feet square, adjacent to the plot. Lafayette and his wife were buried in this plot.

Lafayette always wanted to be buried on American soil. He accomplished this by having American soil brought across the Atlantic, and when he died this soil was placed at the bottom, around the sides and on top of the casket. Every U.S. Memorial Day our American consul in Paris places an American flag in a metal holder (similar to ones placed at graves by the American Legion in the United States) at the grave site.

A convent is located adjacent to the common graveyard where Lafayette's wife's relatives are buried. Daily services are held there in memory of the beheaded. □

—John Adams Jr. '29

Wrong Class

We should be sorry to lose Miles Shore from membership in the Class of 1954. On the other hand, we'd be delighted to have Eleanor added to our class!

Perhaps the pride and delight that both Shore parents had in Rebecca's graduation generated a miasma of confusion to the photo editors—hence the mislabeling on page 25 in the Fall '90 issue.

—Herbert J. Goldings '54

PULSE

Just Desserts

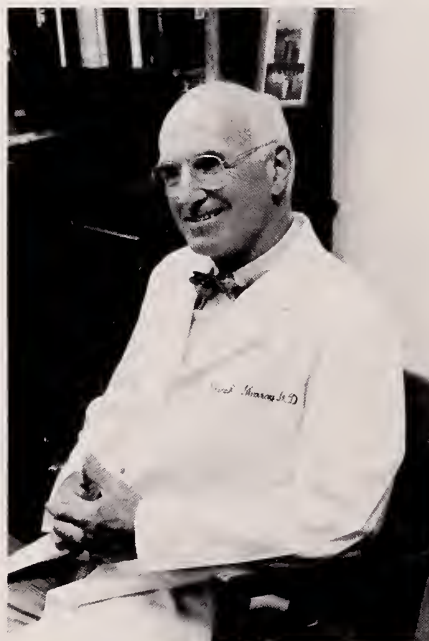
Joe Murray's daughter Meg woke him up at 5:00 A.M. October 8 to give him the news: "She had this radiant look on her face—and I wondered what the heck could be so wonderful to wake me up at 5:00 A.M. When she said, 'Daddy, you've just won the Nobel Prize,' I literally broke down in tears." As the world by now knows, Joseph E. Murray '43B won the 1990 Nobel Prize in Physiology or Medicine with another HMS alumnus and pioneer in transplantation medicine, E. Donnall Thomas '46.

Their independent work in the 1950s and '60s—in face of what seemed to be insurmountable problems—helped usher in the era of transplantation, the limits of which even today have not been reached.

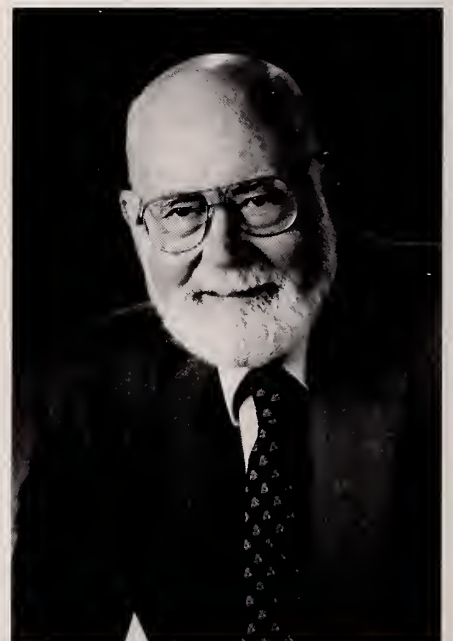
The prize acknowledges Murray's work in kidney transplantation (he performed the first successful kidney transplant with identical twins in 1954

and, with the development of an immunosuppressive drug in 1962, a successful unrelated-donor transplantation) and Thomas's efforts in bone marrow transplantation (which he started developing in the '50s and performed successfully in 1970 for the first time on a woman who did not have a twin).

In the late '40s at the Peter Bent Brigham Hospital, physician-in-chief George Thorn and surgeon-in-chief Francis Moore '39 were vigorously supporting renal transplantation research in their services. Gustave Damm and his pathology department were working on compatibility matching between donor and recipient. At the same time at the Brigham, the late John P. Merrill '42 was the first to attempt dialysis in end-stage renal disease patients, using a kidney machine developed by Dutch scientist Wilhelm Kolff that Carl Walter '32 had modified. But patients couldn't be kept alive long this way. Murray was developing the surgical technique on dogs that



Joseph E. Murray '43B



E. Donnall Thomas '46

would enable the kidney to be transplanted.

When the historic transplant took place in 1954 from one Herrick twin to the other, Murray headed the surgical team, Merrill the medical team, and the late J. Hartwell Harrison '33 removed the donor's kidney.

"When we considered the first transplant between twins, I was advised by a close surgical friend that I should not get involved in this activity because it would ruin my future," Murray wrote in the Summer 1986 *Bulletin*. "At that time most physicians felt it was either extravagantly daring or foolishly unrealistic, or both, to be involved in organ transplants."

Though Thomas is now director *emeritus* of the bone marrow transplant program at the Fred Hutchinson Cancer Center in Seattle, he, too, had been at Harvard during those "heady"

days of early transplantation research. Thomas was investigating bone marrow transplantation there in the '50s as a way to make immunosuppression through total body irradiation possible. But without better drugs and tissue matching to prevent the graft-versus-host attack, it soon became clear that the only successes were with identical twins.

A search for alternatives to total body irradiation for immunosuppression led in 1962 to the breakthrough boost that kidney transplantation needed. In the laboratory of surgical research in Building E, Murray had been working with research fellow Roy Calne (currently Sir Roy Calne, chairman, department of surgery at Cambridge England) testing immunosuppressive drugs developed by George Hitchings, PhD and Gertrude Elion, PhD. Hitchings had received his doc-

torate in the HMS Division of Medical Sciences and was then head of the Burroughs Wellcome Research Laboratories. He was investigating anti-cancer drugs when he found one that looked promising for his project with Murray and Calne. Azathiaprine's development enabled Murray to successfully transplant an incompatible, cadaveric kidney and was part of Hitchings's and Elion's Nobel Prize citation in 1988.

It took longer for bone marrow transplantation to similarly benefit from drug development and better tissue matching. In the meantime, said Thomas, "Most people left the field because they felt it couldn't ever be done."

Thomas persevered and now bone marrow transplants can cure a significant number of leukemia patients. Over 350 transplants per year are performed in his bone marrow transplantation (BMT) unit—the world's largest BMT program. BMT is also under investigation for numerous other cancers and diseases.

The Nobel Prize for Physiology or Medicine more typically honors basic science rather than clinical research. Murray's and Thomas's work has led to thousands of saved lives, however, and perhaps has made an impact in other, not yet imagined ways. To borrow Murray's philosophical comment from his *Who's Who* listing: "I realize more than ever that the only legacies we can leave behind for our children and students are roots and wings." □

Nobel Prizes to HMS Alumni and Faculty Members

1934: *George R. Minot '12 and William Parry Murphy '20*, Medicine: For discoveries concerning liver therapy in cases of anaemia.**

1943: *Edward A. Doisy, Division of Medical Sciences* (DMS) 1920*, Medicine: For discovery of the chemical nature of Vitamin K.**

1946: *James B. Sumner, DMS '14*, Chemistry: For discovery that enzymes can be crystallized.**

1953: *Fritz A. Lipmann*, Medicine: For discovery of coenzyme A and its importance for intermediary metabolism.**

1954: *John F. Enders, DMS '30, Thomas H. Weller '40, and Frederick C. Robbins '40*, Medicine: For discovery of the ability of poliomyelitis viruses to grow in cultures of various types.

1966: *Charles B. Huggins '24*, Medicine: For discoveries concerning hormonal treatment of prostatic cancer.**

1972: *Christian Anfinsen, DMS '43*, Chemistry: For work on protein formation in nature.**

1976: *Daniel C. Gajdusek '46*, Medicine: For discoveries about new mechanisms for the origin and dissemination of infectious diseases.**

1980: *Baruj Benacerraf*, Medicine: For discoveries of genetically determined structures on the cell's

surface that regulate immunological reactions.**

1981: *David Hubel and Torsten Wiesel*, Medicine: For discoveries of information processing in the visual system.

1985: Peace Prize to International Physicians for the Prevention of Nuclear War, founded in the U.S. by a group that included four HMS faculty and/or alumni: *Bernard Lown, James E. Muller, Eric Chivian, and Herbert Abrams*. For spreading authoritative information, and creating an awareness of the catastrophic consequences of atomic warfare.

1988: *George H. Hitchings Jr, DMS '33*, Medicine: For developing important principles for drug treatment.**

1989: *J. Michael Bishop '62*, Medicine: For discovery that normal cells contain genes that can cause cancer if they mutate and malfunction.**

1990: *Joseph E. Murray '43B, and E. Donnall Thomas '46*, Medicine: For their discoveries concerning organ and cell transplantation in the treatment of human disease.

*The Division of Medical Sciences at Harvard Medical School trains nonphysicians in the research sciences basic to medicine, and awards the PhD degree.

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Collaboration Gets a Lift

A collaborative forged between Children's Hospital and English High School recently received a LIFT (Labor Investing for Tomorrow) award from the U.S. Department of Labor, in recognition of its success in keeping students in school through graduation.

The collaborative seeks to heighten student motivation through on-the-job training at the hospital. Upon successful completion of the program and graduation from high school, participating students are guaranteed a full-time position at Children's, or assistance in finding similar work at another institution. Students in the collaborative spend a month in each of four Children's Hospital departments: clinical laboratories, medical records, nutrition and food service and patient accounting.

Several graduates of the program are currently working full time at Children's, and a number of students have gone on to college. □

Top of the Class

The statistics stack up in Harvard's favor as the Class of 1994 begins its first year. "The Class of 1994 brings the usual fantastic diversity of backgrounds, interests and talents that will enrich our school," says Director of Admissions Gerald Foster '51.

Out of an HMS application pool of 2,438—up 109 from last year, suggesting an upward trend in applications following a 10-year slump—165 are matriculating. Foster says that in his talks with potential applicants around the country, he has noticed that students are applying to medical school "for all the right reasons—its blend of science and humanism."

Sixty-three applicants declined places offered them, and 19 deferred. Among those who deferred are two Marshall Scholars, two Fulbright Scholars, one Sheldon and one Rotary Foundation fellowship. One student deferred to train for world-class, professional competition in the triathlon. One Fulbright Scholar and five Rhodes scholars who had deferred last year entered the class this year.

The class has 95 men and 70 women—one of the three largest classes of women in 10 years (1984 had 75 women and last year's class had 73). Ages of the Class of '94 range from 19 to 35, with 57 22-year-olds.

Students hail from 35 states. Massachusetts is home to 13 students while

New York is on the top of the list with 24 students. California is in the middle with 21 students. Harvard/Radcliffe, with 29 students, has the largest number of representatives in the new class. Yale is second with 16 students, Stanford University follows with 12 students, and MIT sends 10. Internationally, the class represents 4 students from Canada, 2 from Barbados, and 1 each from Hong Kong, Jamaica, Iran, Luxembourg, Brazil and India.

From the 135 African-Americans

who applied to this class, 26 were offered places and 18 accepted. The class also includes 5 Mexican Americans, 1 Puerto Rican and 40 Asian/Pacific Islanders.

The Class of 1994 will reap the intellectual skills of 130 science majors, 93 of whom had a grade point average of 3.75 to 4.0. Social sciences and the humanities represent 17 and 10 students respectively, and 83 students scored with a 3.75 to 4.0 nonscience undergraduate GPA. □



Students check out campus organization tables at the Activities Fair during orientation.



The societies all meet for dinner during orientation.

CAMPAIGN REPORT

Campaign Countdown

As the Alumni Regional Campaign program prepares to launch its final campaigns, Perry J. Culver '41, who has played a key role in each of the 15 area campaigns already completed, says that "every alumnus and alumna who has participated in one of the regional fund-raising efforts will be pleased with the results.



Perry J. Culver '41

"The total pledged or contributed by alumni so far is an impressive amount, but that won't be the only cause for celebration," says Culver, co-chairman of the National Alumni Committee of the Campaign for the Third Century of Harvard Medicine. "When you consider the number of alumni we've reached nationwide since the program started," he explains, "we show an all-around success. That outreach will stand us in good stead for many years to come."

The program, which this past fall launched its 16th and 17th regional campaigns (in San Francisco and on

the Bay Peninsula), has raised nearly \$5 million in gifts and pledges since Philadelphia-area alumni organized the first regional effort in the fall of 1987. The contributions benefit one of three goals of the alumni campaign program: student financial aid, the renovation of Vanderbilt Hall and unrestricted support.

Although the two campaigns underway in San Francisco have not been fully tallied, Culver foresees that alumni-giving in those two areas will exceed any other region, with the possible exception of Boston, where the alumni campaign raised in excess of \$1 million.

Culver reports that the majority of gifts made to the school through alumni campaigns has been within the suggested range of \$10,000 to \$50,000. "All of the alumni whom volunteers approach for pledges to the campaign are highly successful in their fields and should, therefore, be able to give between \$2,000 and \$10,000 a year over a five-year period," he says. "And the majority of them do," he adds with delight.

When asked to explain the success of the regional campaign program, Culver first credits the alumni who volunteer to serve on the regional committees, then the alumni who offer to make pledges when volunteers call upon them for contributions.

Culver says that over 400 alumni have volunteered to serve on the committees that are formed in each region prior to the start of an area campaign. The volunteers, who personally visit fellow alumni, have met with close to 1,200 alumni, or more than one-quarter of all Harvard Medical School alumni who have graduated prior to 1980. (Volunteers normally refrain from approaching alumni who have graduated within the last 10 years, according to Culver.)

The list of regional campaign volunteers—all of whom themselves make "leadership pledges" to the campaign

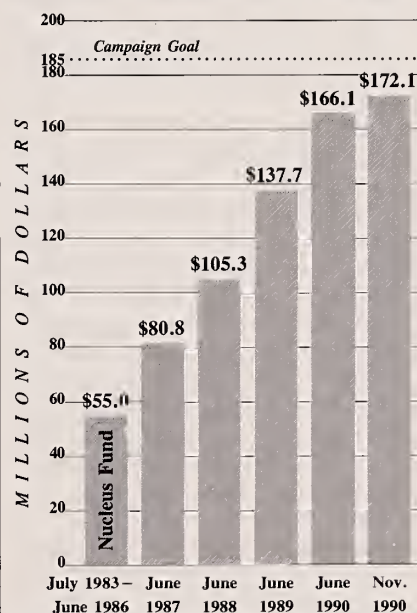
prior to calling upon fellow alumni for similar-sized gifts—"reads like a Who's Who of HMS grads," says Culver.

"We have volunteers representing every class year starting with the Class of 1933 on up through the Class of 1980," Culver says. "We even have a volunteer from as far back as the Class of 1924, the very distinguished Charles Huggins, who served on the Chicago Alumni Committee.

"And the list of alumni donors is equally impressive," he adds.

Culver also says that committee members always come away from campaigns having enjoyed their experiences as volunteer fund raisers. "The joy, I think, is related to knowing that their efforts have greatly helped Harvard. I hear only positive comments

Campaign for the Third Century of Harvard Medicine



The Campaign reached \$172.1 million in gifts and commitments as of November 30, 1990. The Campaign goal is \$185 million.

about the campaign program from volunteers. In truth, it's the volunteers who make these campaigns so positive and successful—not any program. They really deserve all the credit."

William K. Stone, dean for resources, echoes Culver's praise for the volunteers and donors to the regional campaign program. Stone says that without the funds raised through the regional efforts, the medical school may have had to postpone some key projects—like the renovation of Vanderbilt Hall—that have received funding through the program. This is because the money raised through the regional campaign program arrives in cash over a defined period of five years; hence, the money, once pledged, is effectively in hand.

Culver says another benefit of the Alumni Regional Campaign program has been in alumni relations. "We now have a core group of alumni in 17 cities who are eager to host annual receptions for grads in those areas."

Both Stone and Culver are pleased with the number of alumni who have chosen items from the school's varied menu of naming opportunities. Culver can produce a list of alumni who, through regional campaign-initiated gifts, have established financial aid funds or have named rooms in the newly-renovated Vanderbilt Hall.

Culver also says that alumni are beginning to respond to the Vanderbilt Challenge, an effort that the school began in July to spark alumni interest in contributing toward the renovation of the 70-year-old student residential complex. The 'challenge' is separate from the regional campaign program, but also seeks to benefit Vanderbilt Hall.

"A few pledges have begun to arrive, but we have a long way to go," he says. "Our hope is that every alum who resided in Vanderbilt will recall its special place in a student's life at Harvard and make a pledge toward its renovation."

Culver shows a letter received recently from Robert J. Glaser '43B, in which Glaser conveys his interest in the report on "The Vanderbilt Challenge" in the Summer '90 issue of the *Bulletin*. "If memory serves me," writes Glaser, former dean of Stanford Medical School, "I made a small contribution to the campaign for refurbishing Vanderbilt Hall, but I note that there is an opportunity for alumni to make a five-year pledge of \$20,000 and have their name put on a room in Vanderbilt. The idea appeals to me. . . . For most of my years at the medical school I

lived in Vanderbilt 138, and if that room were still available to be named, it would be fine with me."

Culver says he feels that "perhaps hundreds of alumni share Bob Glaser's sentiment and will eventually respond to the 'challenge'."

He says that he will provide a personal tour of the newly-opened hall to any alumni interested in naming a room in it. "All they have to do is call me. If I'm not with a patient at the MGH or on the road for HMS, I'm ready to put on my tour guide hat!" □

BOOK MARKS

A Prayer for the Living

A DISSENTER IN THE HOUSE OF GOD by Alvin Rosenfeld '70, St. Martin's Press, New York, 1990.

by Alfred Margulies

"Imagine the real . . ."
—Martin Buber

One of the powerful images etched into my childhood consciousness is the God of Yom Kippur with His great book containing the names of every man, woman and child. In that book all the names are re-inscribed every New Year and, like an accountant's ledger, there are plus and minus sides. On one side go those who will be inscribed for life and, on the other, those who will die. God is the great judge, the One who parses out history and destiny. As the day wanes, the shofar will finally blow, a still, small voice in the heavens announcing that the accounting is over. On Yom Kippur the book of fate is sealed.

The Nazis too were accountants, challenging the universe, a master race rivaling the Lord in their attempts to number humanity. They too kept terrible ledgers, sorting out, as Dr. Mengele did, who should live and who should die, scratching numbers into the flesh of their human inventory.

The purity and beauty of mathematics is matched only by the perversity of its uses. One horror of the film *Shoah* is the documentation of the mundane and efficient accounting procedures used by the Nazi machinery of death.

My mind drifts to a recent challenge to the Holocaust, that is Holo-

caust as hoax. This argument is perversely based—and refuted!—by numbers. For example, Zyklon-B gas could not do this amount of damage: the equations don't work, the numbers don't add up. The counter-argument: the debunker is not a real engineer, he is not a certified expert on these kind of numbers. Our minds numb over, the calculations are too grotesque, the numbers are too big—we cannot comprehend human suffering on this scale.

It has been said that personal pain encompasses the pain of the universe; Alvin Rosenfeld's first novel, *A Dissenter in the House of God*, imagines one person's suffering.

We first meet Hyman Schwartz 10 years after the war. He too is an accountant, a survivor branded and infected with the blue numbers of the concentration camps. He lives for and through numbers, checking and double checking in his head, a master of the Victor calculating machine—he is a genius of arithmetic. In Hyman's numerical universe he has, in a sense, usurped God. Hyman's world is orderly, predictable, everything adds up. In his grief and hatred, he has outdone God—Hyman's ledgers are flawless. Hyman's numbers, unlike life and history, are perfectly balanced.

Commenting on his accounting principles, Hyman remarks, "I know men who spend their whole lives crying because of one simple mistake." Hyman Schwartz's mistake was not being home the day the Nazis rounded up his wife and son. Hyman's mistake was having survived.

Hyman's life is suspended in the twilight of trauma. He is numb and

empty, like the walking corpses of the camps—his is a living death. His clothes are ragged, he eats from an automat, he lives in a rented room that has the feel of a cell. His surviving passion lies in his anger with God and his resolute determination not to allow his numerical world to be contaminated by life or memory. Life itself would be a sin against his missing wife, Rachel, and son, David, who have simply disappeared into the chimneys along with the inconceivable numbers.

Into this gray and suspended world comes a young man, Shimshon, someone the age Hyman's son David would be now, if only. . . . At first Hyman wants to be left alone, but the young man is persistent and patient. He wants Hyman to be his teacher. Shimshon, we learn, has a blue number too. Hyman never calculated on this, and something in him is shaken loose, triggering his awful visions and traumatic recall.

The Nazi agenda included the total destruction of the Jews, not only physically, but also by murdering the will of this people to survive. Some survived such attempts at soul murder through unshakeable religious faith. Some survived through love. Some were sustained through hatred and the wish for revenge. All, though, wanted to bear witness. For many, bearing witness itself became a *raison d'être*.

Hyman's life project is not only to bear witness against the Nazis, but now to bear witness against God Himself. It is not that man should never forget—no, God the Almighty must never forget what He allowed. This is Hyman's integrity: He will stand up to God.

On Yom Kippur Eve, the holiest of holy days, and in the middle of the solemn Kaddish, the prayer for the dead, Hyman's memories and his rage boil over. He confronts God:

"If You weren't present, let me tell You what I saw . . . because when You're brought to trial, I don't want You asking oh, so innocently, why no one ever told You. Listen, King of the Universe. . . ."

Pointing a shaking finger at the dome of the synagogue, he screams: "He killed them . . . It was You!" He had accused the murderer to His face.

We watch as Hyman's grief and rage unfold, all precipitated by a disturbing young man who awakens Hyman's capacity to remember and to love. Through teaching and giving to Shimshon, and ultimately through giving him up so that Shimshon might pursue his life unencumbered, Hyman nurtures his own soul and broken heart.

And so Hyman lets go and comes alive.

The sensory fabric of Hyman's life changes: he can smell and taste, he can wear new clothes, he can fantasize, he can love, he can live. Hyman at last unwraps the hidden away pictures of his wife and son, removing the packing as if it were embalming tape, as if it were the bandages of his own open wounds—and he remembers. Reflexively, he says Kaddish.

As a child, I would watch mourners, gray and somber, rise for Kaddish in the Sabbath service. Furtively I would read the English translation, curious about the mysteries of the dead. But to my surprise, there was no direct mention of death—the words



*Pointing a shaking finger
at the dome of the
synagogue, he screams:
"He killed them . . .
It was You!"*



were about life. Kaddish, I learned, is for the living.

With a sure hand for the details of language and custom, Rosenfeld affectionately captures his characters' world. The author clearly knows this world; he has lived in it, absorbed it, loved it. The characters are simple, more from Sholom Aleichem (with a touch of Kierkegaard) than, say, Phillip Roth or Saul Bellow. They have straightforward goals and dreams, their passions are elemental. Simple characters caught in extraordinary evil. Hyman is Everyman as Job, Everyman lost from Eden, Everyman escaped from Hell.

One treads softly on such ground. Making fiction out of the Holocaust has the peril of moral sacrilege about it. There is an almost implicit injunction against weaving a novel out of such pain and horror; it is hallowed ground for those who have been intimately touched by it. In reading William Styron's *Sophie's Choice*, for example, one wonders if the Holocaust needs to be dramatized by such a fictional, bit-

ter choice as Sophie has to make. After all, wasn't the Holocaust terrible enough on its own terms?

The psychological predicament that Rosenfeld has posed for us, though, is not merely a literary conceit, a *Gedanken* experiment to perform a moral exploration of the dilemma of a person who both believes in and hates God. In one survey of 708 Holocaust survivors, (in *The Faith and Doubt of Holocaust Survivors* by R.R. Brenner) fully one-quarter held God responsible. Their voices are severe and awful. One formerly religiously observant survivor remarks:

"If God exists, where was He? . . . How could He possibly have allowed it to have happened, innocent men, women and a million and a half unfortunate children. . . . God is supposed to be Providence who governs all things according to objective standards of equality and righteousness and justice. . . . But instead guiltless, pure, incorruptible, blameless souls went up in a Holocaust of fire, with almighty God nowhere in evidence. What do we need a God for if not to deter the wholesale slaughter of the innocent? I do not care for any of the philosophical and pious reasons. . . . There . . . can never be any acceptable excuse for God."

The very week I started Rosenfeld's book I lost a friend, a gentle, sweet man, who had survived the camps. Despite the external trappings of a happy life, he drifted into increasing aloneness and bitterness. In his last days he created his own hell on earth; he seemed to have imploded. And so now Rosenfeld's novel is bittersweet to me. It seems too hopeful, the psychological change Hyman undergoes seems too fast. Nevertheless, one hopes. Moreover, as a psychiatrist, it is a role I am entrusted with—hope is what keeps people alive.

Rosenfeld has taken a courageous risk in setting fiction to the unimaginable pain of the Holocaust. Somehow and remarkably he has succeeded, and largely, I think, because he cares so much about his people. Rosenfeld has written a haunting first novel, and has written it with love. It is a Kaddish for the living, a Kaddish for us all. □

For Ernie . . .

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Early Arrivals

Prospects for Premature Babies

by Marie C. McCormick and Mary Ellen Avery

Considerable controversy surrounds neonatal intensive care in the United States. It is expensive, and it appears overwhelmingly intrusive, not to say painful, for tiny fragile infants surrounded by the ultimate in "high tech" medicine. Horror studies abound about devastated survivors with severe cerebral palsy, blindness and mental retardation. Families may be bewildered by the experiences and impoverished by the bills. Much of this distress is argued to be unnecessary if only a few, inexpensive preventive services were more widely available to pregnant women.

To what extent is this characterization accurate? Is neonatal intensive care an expensive antidote foisted on the public by a technology-fixated medical establishment? Or is it an efficacious intervention for a problem that is not necessarily as preventable as the arguments would suggest? What are the dimensions of the prematurity in terms of the number of children who receive intensive care, the factors leading to their births and the nature of the outcomes of those who survive? Our intention is to try to illuminate the complexities of the impact of neonatal intensive care; on balance, our vote is for it.

The issues surrounding neonatal

intensive care are of relatively recent origin. For much of history, until the middle of this century, death in infancy reflected the burden of infectious illness (diarrhea, pneumonia, whooping cough, diphtheria) compounded by inadequate nutrition—a state still characteristic of many Third World countries.

With the control of infectious problems through improved nutrition (pasteurized milk), sanitation and housing, and more recently, immunizations and antibiotics, infant mortality (deaths in the first year) has plummeted. After World War II, most deaths occurring within 28 days after birth, the neonatal period, were due to respiratory distress syndrome and congenital malformations, and were associated with inadequate fetal growth from many causes, both constitutional and environmental.

Inadequate fetal growth is indicated by birth weight or a length of pregnancy (gestational age) that is less than normally expected. Since determination of gestational age, until recently, depended on the mother's report of her menstrual cycle information, which for a variety of reasons might be inaccurate, birth weight became the standard for fetal growth. In 1935, following the suggestion of a Finnish pediatrician, Arvo Yllpö, a birth weight of 2,500

grams (5.5 lbs) or less was designated "high risk" for mortality by the American Academy of Pediatrics.

By the early 1960s, low birth weight (LBW) births accounted for 8.2 percent of all births, but two-thirds of neonatal deaths. Hospitals had set up special care units to deal with such infants. In 1963, President John F. Kennedy and his family experienced the birth of a preterm infant, Patrick, and his death from respiratory distress syndrome, otherwise known as hyaline membrane disease. Patrick was born before adequate infant mechanical ventilation and supportive techniques were available. Today, babies of Patrick's birth weight, about 4 lbs, almost invariably survive.

By the mid-1950s, it was known that surviving premature infants incurred the risk of "some departure from normal development" (26 percent abnormal compared to 8 percent of full term controls in a study by Knobloch and Passamanick). The National Perinatal Collaborative Study—a study of 26,670 children sponsored by the NIH—established in great detail the increased risk of such preterm infants for neurologic handicap by early school age.

The relative stability of the rate of LBW births, and the lack of effective-

ness of special care units, resulted in a period between the mid-1950s and the late 1960s when the U.S. infant mortality rate did not change. Among the factors contributing to this situation were well-intended but inappropriate restrictions in the level of inspired oxygen, undertaken without appreciating that oxygen injury to the developing retinal vasculature (then called retrolental fibroplasia, now retinopathy of prematurity) is more dependent on concentration in arterial blood than in the inspired air. Thus, infants with lung disease (hyaline membrane disease) were at greater risk of death from hypoxia.

This experience led to arguments that neonatal care was ineffective, and only increased the survival of handicapped children. Further approaches to lowering infant mortality should involve the prevention of such high risk births, it was argued, especially through addressing the problems of poverty, which increases the risk of low weight births.

In the late 1960s, infant mortality began to decline at a rapid rate. Coincident with this change were three major changes that might have contributed to this decline:

Types of Factors (and Examples) Associated with Low Birth Weight and Prematurity

- Genetic/constitutional (infant gender, parental height and weight)
- Demographic/psychosocial (maternal age, socio-economic status)
- Obstetric (prior pregnancy outcome, birth interval)
- Nutritional (weight gain, vitamins/minerals)
- Maternal morbidity (pre-existing illness, genito-urinary tract infections)
- Toxic exposures (cigarette smoking, alcohol/other substance use)
- Pre-natal care (start, compliance, quality)

(Adapted from M.S. Kramer, 1987).

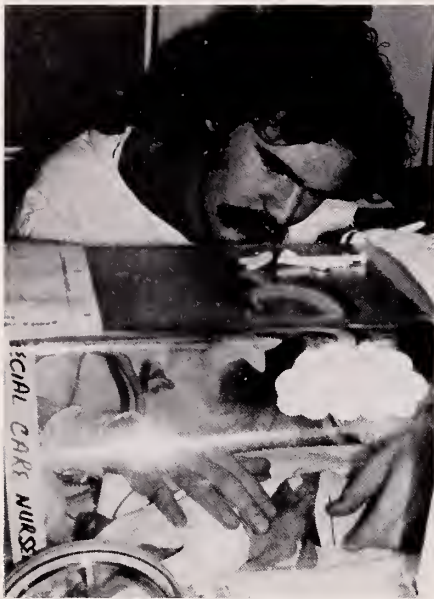
- Effective, inexpensive birth control (the Pill, therapeutic abortion) became available, suggesting that many women who previously would have been at risk for LBW births were now able to reduce their child-bearing.
- The Great Society programs were launched, leading to increased access to medical care by the poor with the potential of reducing the risk of

LBW births through prenatal interventions.

- Research into the problems of low birth weight infants expanded. The bases of many of the problems of preterm infants were characterized, especially the problem of respiratory distress syndrome or hyaline membrane disease. This understanding was translated into more effective approaches to neonatal intensive



Premie Adrienne Weber at six weeks old—normal length is about 21 inches. Adrienne, the subject of Mary Ellen Avery's book *Born Early*, was born after a pregnancy of 25 weeks and weighed 710 grams (1 pound, 9 ounces).



Adrienne at 51 days of age with her father, Mark.

care, especially the application of effective means of assisting ventilation with continuous positive airway pressure and better designed ventilators.

It was not until the late 1970s and early 1980s, however, that the forces underlying the rapid decline in neonatal deaths became clear. While preventive techniques through birth control and prenatal care contributed modestly, most of the decline could be attributed to the increased survival of smaller infants through the application of neonatal intensive care. Regional organizations providing perinatal services were put into place to assure access to such care. The outcomes of LBW infants by then were better characterized; although at greater risk of handicap, most surviving prematures were found to be without significant impairment.

So what's the continuing source of concern? Yllpö's "high risk" infant of 2,500 grams would probably not see the inside of an intensive care unit today. Most neonatologists would define risk as 1,500 grams (3.3 lbs) or less, but would be most concerned about the infant born weighing 1,000 grams (2.2 lbs) or less. While the proportion of LBW births has been slowly decreasing, most of this change reflects decreases in those born between 1,500 and 2,500 grams. The proportion of infants born weighing less than 1,500 grams has remained stable for 20 years, and may now be increasing.

Moreover, we continue to have marked racial disparities in the rates of high-risk births. Since the mid-1960s,

the births under 2,500 grams among nonwhites have been about 13 per 1,000 live births, and among whites about 6 per 1,000. For infants under 1.5 kg, the rates for nonwhites are 3:1 over the rates for whites. Thus, the need for neonatal intensive care is not going to go away in the foreseeable future.

But techniques have improved, and 50 percent of infants with birth weights about 750 grams (1.7 lbs) will survive, without significant impairment. At least one infant with a birth weight as low as 380 grams is recorded as doing well at 20 months. These very, very tiny survivors (sometimes called "micropremies") often represent unusual special circumstances. The question is the extent to which micropremies deserve a trial of intensive care. We continue to think it best to individualize. Some infants are low birth weight for gestational age and may do well. Factors other than birth weight belong in the consideration of when to mobilize, and when to discontinue, intensive care.

The implications of such care can be staggering. A surviving 750 grams baby may spend the first three months of life in the hospital at costs exceeding \$100,000. Even nonsurvival can be expensive—the most intensive efforts are concentrated in the first few days or weeks of life.

For many young families, such costs may exceed their resources. Young adults are the least likely to have private insurance, and more likely to be underinsured. Their personal resources may be adequate for the costs of a normal delivery (no small invest-

ment at \$4,000), but be overwhelmed by the unexpected birth of a very preterm infant. In such cases, the costs are borne by the state (through Medicaid, if the families are poor enough to qualify) or by the hospital as free care.

The costs do not end when the baby is discharged. McCormick's work has established that very tiny infants are hospitalized at four to five times the rate of normal birth weight infants in the first year of life, and that these costs as well as other medical costs may average another \$10,000.

Is it worth it? The answer to that depends on whether there are alternatives, and what the outcomes for surviving infants are. With regard to the latter, events in the first two years of life are relatively well described.

The first year of life is not an easy one. The infants often experience more difficulty in achieving regular daily routines, sleeping and eating, and may be over- or under-reactive compared to term infants. Morbidity remains high, with more frequent ear infections and more serious problems resulting in rehospitalization. They have higher rates of conditions needing surgical repair such as hernias or strabismus (crossed eyes).

The health needs of children discharged with complications of prematurity, like chronic lung disease (bronchopulmonary dysplasia) are even higher. Transient problems in muscle tone emerge even in healthy preterm infants. And these, with the other special developmental concerns, lead to early intervention services—



Adrienne at eight years old in the summer of 1990. She has developed normally, is taller than average for children her age, and is an avid reader.

developmentally oriented community-based services for "at risk" infants.

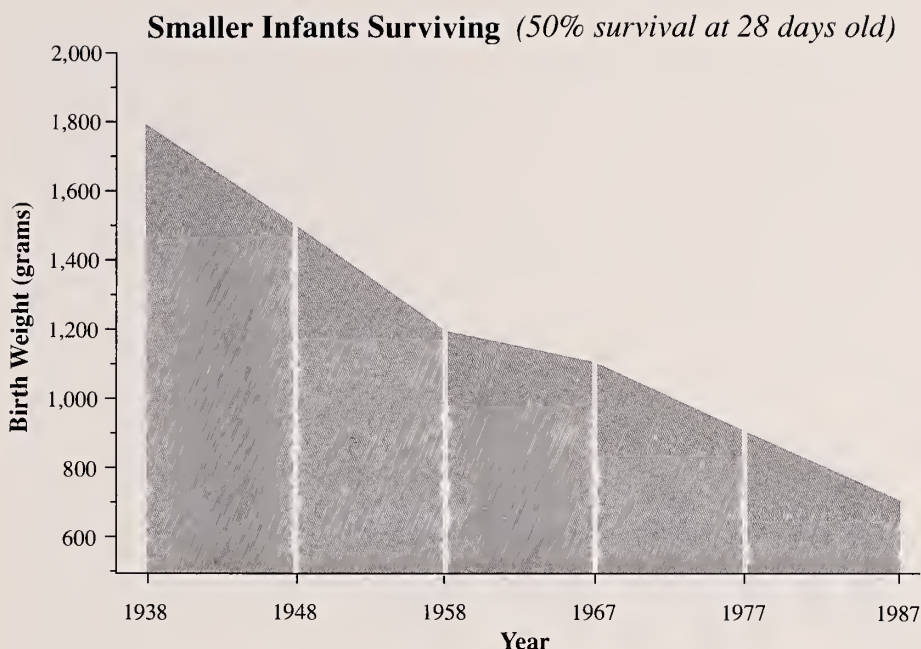
However, by the end of the first year or middle of the second year, many of these problems resolve. The infants have had rapid growth so that they are now on the growth chart, perhaps more petite than average, but well within normal limits for chronologic age. Most of the symptoms of complications, increased rates of acute illness and transient tone abnormalities, will have resolved. Ten to 20 percent, however, have a severe handicap, such as cerebral palsy, blindness, mental retardation or seizure disorders.

Information on longer term outcomes with the most modern intensive care techniques is just emerging. A few infants with severe handicap will be diagnosed later in childhood, but even among those previously considered to be without significant disability, less severe problems are being identified that may lead to school difficulties, such as poor visual-motor coordination or hyperactive behavior with poor concentration. Between 25 to 33 percent of very low birth weight infants may have such problems, compared to 10 to 15 percent of term infants. In addition, they continue to experience more health problems, especially respiratory problems sometimes diagnosed as asthma.

This rate of severe handicap is substantially higher than for term infants, which is generally around 1 percent. The risk of less severe types of developmental difficulties and continued respiratory problems is lower, about two to four times that of a normal birth weight infant. From a public policy point of view, however, the risk is tolerable. Because very tiny infants represent such a small percentage of surviving infants (0.5 to 0.7 percent), their higher risk of handicap is overshadowed by the numbers contributed by mature infants. Moreover, even among very low birth weight infants, the proportion of intact survivors is increasing.

From the parental point of view, the impact of handicap is highly individual. For many families, having a normal pregnancy may have been almost impossible due to health and fertility problems, so a child who requires braces for his or her cerebral palsy or special education for learning disabilities is not a burden.

The emotional pain is clearly increased if the parents believe that the preterm delivery or its sequelae were preventable. The extent to which very preterm deliveries are preventable is



controversial. The clearest evidence comes from socio-economic disparities in rates of very low birth weight, which point to the impact of environmental factors related to poverty, and which can be modified. While such conditions are more frequently encountered in disadvantaged populations, they are not unique to them.

Prenatal interventions, delivered in the context of early and regular prenatal care, have been shown to improve birth weight. There is a catch, however. Much of this improvement occurs in the third trimester, well after many very premature infants have been born. Much more needs to be learned about the other factors leading to early labor and delivery and its prevention.

The question of prevention is a complex one. The risk of a premature, low weight birth is higher among disadvantaged women. Even some full-term infants placed in disadvantaged environments experience developmental difficulties. Thus, the low birth weight infant from a disadvantaged family proves doubly at risk. Even more affluent families, however, often require support in fostering the development of children who may have health, cognitive and behavioral difficulties of varying degrees of severity.

In many communities smaller preterm infants are automatically eligible for early educational services mandated by federal law for children up to three years of age. The potential effect of these services has been examined in a recent, multi-site randomized trial called the Infant Health and Development Program. This study documented a major advantage in IQ scores and

moderate decrease in problematic behaviors among infants who experience the early intervention program. But, like the NICU, such a service program may prove to be expensive.

Preterm delivery presents a major alteration in child development, abruptly interrupting the normal processes of fetal development, and incurring potential risks from the technology required to sustain the fragile infant's life. But with modern technology, only a minority of surviving infants, even relatively tiny ones, experience severe handicap. A higher percentage may experience less severe problems, but these may result in school difficulties.

It should be noted, however, that the problems experienced by premature infants are, with few exceptions, not different than those of term children; they just have a higher risk for one or more of them.

Issues of prevention remain paramount. The application of current knowledge to all pregnancies can reduce the risk of preterm birth by at least one-half, as has been shown in Japan and Finland. Thus, the major challenges are educational and socioeconomic. □

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Infant Day Care

ISSUES FOR WORKING PARENTS

By T. Berry Brazelton

In 1981 more than half the mothers in the United States were employed outside the home. By the year 2000 it is predicted that 90 percent of children will have two working parents. The number has been increasing each year since World War II, and ten times as many mothers of small children work now as did in 1945.

No longer is it culturally unacceptable for mothers to have jobs. In fact, the practice has become so widespread that many mothers at home feel that they "should" be working. There is a general feeling that unless she works, a woman is missing out on an important part of life, and that taking care of a home is not sufficiently rewarding work. The phrase "I'm just a mother" represents the derogatory role that women at home feel they are playing.

These feelings create unspoken pressures on women today, making new mothers wonder when they should return to their jobs or begin to look or train for one. At each domestic frustration, at each spurt in their baby's independence, young mothers are apt to question whether their baby's need to have them at home still outweighs their own need for an occupation outside the home.

Women at home feel lonely, deserted. Women in the work force feel torn apart. This is a difficult time for all mothers. The women's movement has been an important force, for it has empowered women to feel that they can live up to men in the work force. This sense of empowerment is critical—to them and to their children. But now our society has a new job to do—to help women learn how to do both—

find success in their careers, and in their homes. We have just begun to face it.

In addition to these pressures on women to work, there is a strong bias against mothers leaving their babies in substitute care unless it is absolutely necessary. Since society does not yet wholeheartedly support working mothers and their choices about substitute care, in the back of young mothers' minds a nagging question tends to persist: Is it really all right for me to work?

Indeed, this troubling question may reflect the age-old, commonly cherished image of the "perfect mother"—at home taking care of her children. And, yet, this is not reality for most nuclear families today; 68 percent of mothers with children under age 3 are in the work force. They must learn how to split themselves in two.

Men deal with these same issues of facing squarely the unforeseen anxieties of dividing the self into two important roles—one geared toward the family, the other toward their careers. The pressures on both men and women are enormous, and they are largely uncharted by past generations. It is no wonder that many new parents are anxious and overwhelmed as they take on the important new responsibility of creating and maintaining a stable world for their baby.

We do not have enough studies yet to know about the issues for the infant. The studies we do have are likely to be biased, or based on experiences in special, privileged populations. We need to know when it is safest for the child's future development to have to relate to two or three caregivers; what will be the effects on a baby's development of a group care situation; when babies are best able to find what they need from caregivers other than their parents; when parents can separate from their babies without feeling grieved at the loss.

In a word, we need information on which to base guidelines for parents. It could be that the most subtle, hard-to-deal-with pressure on young adults comes indirectly from society's ambivalent and discordant attitudes, which create a void of values in which the building and nurturing of a family becomes very difficult. Certainly these biases reinforce the family's own ambivalence.

A further threat to the new family is posed by the very instability of its future as a family. Largely because of divorce, 58 percent of children in the United States will have spent a significant part of their lives in a single-

parent home. Half of the marriages of the 1970s and '80s will split up in the 1990s. The U.S. family is in serious trouble.

A new baby can be seen as an opportunity for strengthening relationships within the family. Because of the realignments that necessarily will occur around the advent of the new member, the old ties and the previous adjustments to the family's integrity are likely to be shaken—for better or for worse. The powerful forces during pregnancy of learning to become parents demand that they reshape their previous adjustments.

But this cannot be left to chance. Supportive, sensitive interventions during pregnancy must be offered to stressed parents.

We have seen that relatively minor and inexpensive adjustments on the part of the medical system—such as prepared childbirth, father participation, presenting the baby to the mother and father at delivery—can increase the opportunities for “bonding” to the baby. Although this is likely to be only a first step toward fostering attachment and significantly enhancing the possibilities for the baby's optimal development, it is a most important step.

In my own work with the Newborn Behavioral Assessment* I have found that presenting a baby's behavior to eager, new parents gives them a better chance to understand their infant *and themselves* as nurturers at this sensitive point in their development as adults. Such a simple intervention in an otherwise rather pathological medical system seems to enhance the parents' image of themselves as vital to their baby and to each other.

In my practice as a pediatrician, the parents I see in a prenatal interview are generally predisposed to share their concerns about themselves and the well-being of their future baby. As they talk to me, they share the passion and the work of making the future adjustment to parenthood with either the hoped-for normal or the dreaded impaired infant. But they need support.

When both parents anticipate the pressures of having to return to work “too early” (in their words, “before three months”), they guard against talking about their future baby as a person and about their future role as parents. Instead, their concerns are expressed in terms of the instrumental work of ad-

justing to time demands, to schedules, to lining up the necessary substitute care. Very little can be elicited from them about their visions of the baby and of themselves as new parents. Perhaps they are already defending themselves against too intense an attachment in anticipation of the pain of separating prematurely from the new baby.

We need to increase efforts to involve the father in the birth process, to enhance his sense of paternity and empowerment as he adjusts to his new role. Having the father involved in labor and delivery can significantly increase his sense of himself as a person who is important to his child and to his mate. Investigators have shown that increased participation of fathers in the care of their babies, increased sensitivity to their baby's cues at one month, and significantly increased support of their wives do result from simply sharing the newborn baby's behavior with the new father at three days, using the Neonatal Behavioral Assessment Scale (NBAS).

In light of these apparent gains, we would do well to consider a period of protected paternity leave, which might serve symbolically and in reality as a means of stamping the father's role as critical to his family. Ensuring the father's active participation is likely to enhance his image of himself as a nurturing person and to assist him toward a more mature adjustment in his life as a whole.

Supporting the mother in her choices about delivery and in adjusting



*Neonatal Behavioral Assessment Scale, J.B. Lippincott, Phila.; Monograph #88, 1984. Test used to assess the physical and neurological responses of newborn, as well as the baby's psychological makeup or temperamental style.

to the new baby seems even more critical for those new mothers who must return to work. If the mother can be awake and in control of delivery, if she can have the thrill of cuddling her new infant in the delivery room, and if she can have the choice of rooming in with her baby and of sharing her baby's behavior with a supportive professional, she is likely to feel empowered as a new mother.

The efforts of the medical system to enhance parental "bonding" to a new baby are certainly important to parents who must return to work. But bonding is not a magical assurance that the relationship will go well thereafter. A new baby's adjustment once they are at home is likely to be extremely stressful to any set of new parents. Most have had little or no prior experience with babies and come to this new role without enough knowledge or participatory experience.

The generation gap makes it difficult for them to turn back to parents or extended family for support. Professional support is expensive and difficult to locate. The mother (and father) is likely to be physically exhausted and emotionally depressed for a period after delivery. The baby is unpredictable and has not developed a reliable day-night cycle of states of sleep and waking.

Crying at the end of the day in the first three months serves as a necessary outlet and discharge for a small baby's nervous system after an exciting but overwhelming day. This crying can easily be perceived as a sign of failure in parenting by harassed, inexperienced parents, and the crying that starts as a fussy period is then likely to become a colicky, inconsolable period at the end of every day for the next three months. A new mother is bound to feel inadequate and helpless at this time. She may wish to run away and to turn over her baby's care to a "more competent person." If she *must* go back to work in the midst of this trying period, she is unlikely to develop the same sense of understanding and com-

petence with regard to her baby as she might if she had been able to stay at home and to "see it out."

When this period of regular crying at the end of the day mercifully comes to an end at 12 weeks, coincident with further maturation of the nervous system, mothers tell me they feel relieved and as if they had finally "helped" the baby learn to adjust to its new environment. They claim to have a sense of having learned to cope with the baby's negativism over these months; their feelings of anger, frustration, and inadequacy during the infant's fussy period are replaced by a sense of mastery at this time.

Since the baby is now vocalizing, smiling and cooing responsively at this same time at the end of every day, they report that they feel they have "taught" the baby to socialize in more acceptable ways. They feel that "at last the baby is mine, and is smiling and 'talking' to me." We must protect this valuable time for new parents and baby to get to know each other.

In our own research on the development of reciprocal communication between parents and small babies, we have been impressed with the necessity for the development of a reciprocal understanding of each other's rhythms of attention and nonattention, which develops between a mother and her baby over the first four months. At least four levels of behavioral organization in the communication system between parents and their small infants develop at this time.

Our research demonstrates that there is a rhythmic interaction of attention and nonattention that is critical to the homeostatic controls over the autonomic nervous system, which is necessary to the immature organism. Learning these rhythms of attention and inattention does not demand verbal communication, but demands that parents learn the rhythm of the baby. We have found there is usually a rhythm of four cycles a minute in the immature organism. These form the base for the infant's learning ability to take in and learn about his or her world in the first few months. Thus, in an important period of intense communication between parent and infant, the parent provides the baby with affective and cognitive information, and with the opportunity to learn to exert controls over the internal homeostatic systems needed to pay attention to its surroundings. The baby and parent are learning about each other.

These early experiences of learning about each other are the basis for their



shared emotional development in the future, and are critical as anlagen for the infant's future ego.

The most important rule for maintaining an interaction seems to be that a mother develop a sensitivity to her infant's capacity for attention and the infant's need for withdrawal—partial or complete—after a period of attending to her. Short cycles of attention and inattention seem to underlie all periods of prolonged interaction. Although in the laboratory setting we thought we were observing continuous attention to the mother on the part of the infant, stop-frame analysis subsequently revealed the cyclical nature of the infant's looking and not-looking, four times per minute.

Looking-away behavior reflects the need of infants to maintain some control over the amount of stimulation they can take in during such intense periods of interaction. This is a homeostatic model, similar to the type of model that underlies all the physiological reactions of the neonate, and it seems to apply to the immature organism's capacity to attend to messages in a communications system.

A mother must respect her infant's needs for the regulation that this affords or she will overload the infant's immature psychophysiological system and the infant will need to protect himself by turning her off completely. Thus, she learns the infant's capacity for attention-inattention early, in order to maintain her infant's attention.

Her use of tempo as a means of entraining the baby's response systems is probably the basis of the baby's learning about his ("his" or "he" used to refer to either male or female babies) own control systems. In this process of variability, the baby learns the limits of his control systems. As the baby returns to a baseline, he learns about basic self-regulation. The feedback systems that are set up within this process afford the baby a kind of richness of self-regulation or adaptation.

Within this rhythmic, coherent configuration, mother and infant can introduce the other mutable elements of communication. Smiles, vocalizations, postures and tactile signals all are such elements. They can be interchanged at will as long as they are based on the rhythmic structure. The individual differences of the baby's needs for such a structure set the limits on it. The mother then has the opportunity to adapt her tempo within these limits. If she speeds up her tempo, she can reduce the baby's level of communication. If she slows down, she can

expect a higher level of engagement and communicative behavior from her infant.

An inspection of the richness of such a homeostatic model, which provides each participant with an opportunity to turn off or on at any time in the interaction, demonstrates the fine-tuning available and necessary to each partner of the dyad for learning about "the other."

We have identified four stages of regulation and of learning within this system over the first four months of life:

1. Infants achieve homeostatic control over input and output systems (i.e., they can both shut out and reach out for single stimuli, but then achieve control over their physiological systems and states). This occurs by the first week.

2. Within this controlled system, infants can begin to attend to and use social cues to prolong their states of attention and to accept and incorporate more complex trains of messages (first two months).

3. Within such an entrained or mutual reciprocal feedback system, infants and parents begin to press the limits of a) infant capacity to take in and respond to information, and b) infant ability to withdraw to recover in a homeostatic system. The mother-infant "games" described by Daniel Stern in 1974 (*J. of the American Academy of Child Psychiatry* 13:402-421) are elegant examples of the real value of this phase as a system for affective and cognitive experiences at three and four months. Smiling and cooing in sequences of three to four times each represent such games (two to four months of age).

4. Within the dyad or triad, the baby is allowed to demonstrate and incorporate a sense of autonomy. (This phase is perhaps the real test of attachment.) At the point where the mother or nurturing parent can indeed permit the baby to be the leader or signal-giver, when the adult can recognize and encourage the baby's independent search for social cues—to initiate games, to reach for and play with objects, etc.—the small infant's own feeling of competence and of voluntary control over his or her environment is strengthened. We see this at four months in normal infants during a feeding, when the infant stops to look around to process the environment and refuses to continue feeding. When a mother can allow for this and even foster it, she and the infant become aware





of the baby's burgeoning autonomy. In psychoanalytic terms, the infant's ego development is well on its way!

I regard these observations as evidence for the first stages of emotional and cognitive awareness in the infant and in the nurturing "other." A baby is learning about himself, developing an ego base. The mother and father who are attached to and intimately involved with this infant are both consciously and unconsciously aware of parallel stages of their own development as nurturers.

As they engage, respond to, and enlarge upon the adult's responses, infants learn from adults how to produce an appropriate emotional environment—one that is appropriate and necessary for learning about themselves and about their world. Thus, infants are learning to fuel both sources of energy—that from within and that from without. They learn about causality within the emotional sphere. They begin to internalize controls that are necessary for producing emotional responses from others. By the end of the fourth month, infants can "turn on" or "turn off" those around them with an actively controllable set of responses. They have begun to learn how to manipulate their own experience and their own world. The emotions that they are experiencing and registering unconsciously by this age can be consciously manipulated as well.

The immaturity of cognitive neuromotor and psychophysiological equipment of the baby limits the infant's potential for developing clearly definable emotions in the early months. The responses of the infant's neurological and physical systems are at the core of

any development of emotions. The immaturity of these systems places obvious restraints on development, but their experiential maturation forms the base for future emotional experience.

As infants learn to cope with a stimulus from the outside world, they experience a sense of achievement, and the feedback system that is activated may give them an inner representation of mastery. Although this terminology is "adultomorphic" and probably represents mechanisms that are more consciously experienced in an older child or adult, it seems to me that the concepts of mastery and learning do fit the anlage of experiences on which the infant begins to build.

The central nervous system, as it develops, drives the infant toward maturation and mastery of self and world. Any internal equilibrium is tested and upset by the imbalance that is created as the CNS matures. Hence, maturation and an increase in differentiation of infant skills and potential become a force that drives the infant to reorganize and "relearn" control systems. Each step is a new opportunity for mastery and for learning new feedback systems.

There are two sources fueling this maturation. Feedback loops that close on completion of an experience after an anticipated performance affect the baby from within. Our concept is that as each step is mastered, anticipation has generated energy that becomes realized and is available as the step is completed. In this way, a sense of mastery is incorporated by the developing infant, and this liberated energy drives the infant toward the next developmental achievement.

Meanwhile, there is a second important source of energy that fuels infant development and enhances each experience. The environment around the infant, when it is nurturant, tends to entrain responsive behavior to the behavior of the infant. Not only do parents register recognition and approval of an infant's achievement, but they add a salient, more developed signal to their approval. This signal, coupled with the positive reinforcement, both fuels the infant and leads the child to match the adult's expectation.

For example, when an infant vocalizes with an "Ooh," a parent will add, "Oh, yes!" to it. The parent couples an added experience with open approval of the infant's production. Thus parents offer the infant positive reinforcement and an added stimulus to reach for. This fuels the infant to go on.

These two sources of energy—one

from within, the other from without—are in balance under ideal conditions, and both provide the energy for future development.

When either of these are deficient, the infant's development of affective and cognitive stages can be impaired. This occurs when 1) an infant is at risk for CNS or autonomic deficits (such as one whose autonomic system is too labile or too sluggish, or one whose threshold for intake of stimuli is too low and is thus overwhelmed by each stimulus); or b) when the environment is inappropriately responsive to the infant (either under or over). Thus, the internal and external feedback systems become intertwined from the first. Since each is dependent on the infant's endowment and capacity for overt and internalized reactions, the infant's genetic capacities determine the kind of internal and external feedback systems that are available. They both fuel the infant's development and place limits on it.

When parents are deprived too early of this opportunity to participate in the baby's developing ego structure, they lose the opportunity to understand the baby intimately and to feel their own role in development of these four stages. The likelihood that they will feel cheated of the opportunity for their own development as nurturing adults is great.

When a new mother must share her small baby with a secondary caregiver, she will almost inevitably experience a sense of loss. Her feelings of competition with the other caregiver may well be uppermost in her consciousness. But beneath this conscious feeling of competition there is likely to be a less-than-conscious sense of grief. Eric Lindemann described a syndrome, which he labeled a grief reaction, that seems to fit the experiences that mothers of small babies describe when they leave them in substitute care.

They are apt to feel sad, helpless, hopeless, inadequate to their babies. They feel a sense of loneliness, of depression, of slowed down physical responses, and even of somatic symptoms. To protect themselves from these feelings, they are likely to develop three defenses. These are healthy, normal and necessary defenses, but they can interfere with the mother's attachment to her baby if they are not properly evaluated.

1. *Denial.* A mother is likely to deny that her leaving has consequences—for the child or for herself. She will distort or ignore any signals in herself or in the baby to the contrary.

Mothers who obviously know better will not visit their baby's day care center "because it is too painful." This denial may be a necessary defense against painful feelings, but it may distort a mother's capacity to make proper decisions.

2. *Projection.* Working parents will have a tendency to project the important caregiving issues onto the substitute caregivers. Responsibility for both good and bad will be shifted, and often side-stepped.

3. *Detachment.* Not because she doesn't care but because it is painful to care and be separated, the mother will tend to distance her feelings of responsibility and of intense attachment.

These three defenses are commonly necessary for mothers to handle the new feelings engendered by separating from a small baby. For example, imagine the feelings of a mother who returns to pick her baby up from the day care center at the end of the working day. The baby has saved up all his important feelings and now blows up in a temper tantrum when the mother arrives. At that point, someone in the day care center turns to her and says, "He never cries like that with me, dear."



These conflicting emotions need to be faced by new parents and understood in order to prevent costly adjustments which are not in the family's best interests. We need to prepare working parents for their roles in order to preserve the positive forces in strong attachment—to the baby and to each other. We certainly must protect the period in which the attachment process is solidified and stabilized by new parents. With the new baby, this is likely to demand at least four months in which the new mother can feel herself

free of competing demands of the workplace.

Since most young families cannot afford a period of four months of unpaid leave, and since the workplace is not inclined to provide such a period without sanctions against the new family, it seems critical at this time to work toward a nationally subsidized policy for paid leave at the time of a new baby. Such national recognition of the importance of the family could become symbolic recognition of the value of the family. It might serve to heighten the emphasis on strong ties within the family, at a time when the national trend toward divorce and instability of attachments has proven especially costly to our children.

As a nation, we can no longer afford to ignore our responsibilities toward children and their families. Such a bill has just been vetoed by our President, and done so without apology to the stressed families in our country.

Obviously, it is critical that parents be provided the opportunity for optimal substitute child care. If a mother is to be free emotionally to realize her potential in the workplace, she must be confident that her baby is in good hands. And, of course, it is critical for children to grow and develop in a caring, stimulating environment. The younger the child, the more critical is environment for the future of his or her emotional and cognitive development.

Results of the research that has looked into outcomes for infants and toddlers who have been in substitute care have ranged from citing the dangers and potential emotional damage to reporting potential emotional gains. Most studies to date have not found negative consequences, as long as care was optimal. Certainly, for millions of children, substitute care is not optimal and we shall not understand fully the consequences for another generation. We are endangering at least half of our children, whose parents cannot afford such expensive care.

For their future, we must have adults who can relate individually to each baby with an appropriate amount of time and the energy to assure reciprocal, sensitive, caring responses. Safety and intellectual stimulation are elemental to such care. In order to provide this for each baby, we cannot tolerate ratios of more than one adult to every three infants, or one adult for every four toddlers. In addition, these adults need to be mature and *well trained* in such areas as the necessary requirements of social, intellectual and physical parameters of infant develop-

ment. Training for caregivers must be required, and supervision for quality assurance be mandated at local, state and national levels.

Optimal day care would include parents in the curriculum. Not only could parents be urged to participate actively in their babies' care, but the centers could provide opportunities for parent education, for peer support groups, and for a replacement for the communities and the extended families that have been lost. Thus, with quality day care, both families and their small children could benefit.

Our future generations are at stake. Throughout the last 40 years, Spitz, Bowlby, Harlow, and many subsequent researchers have pointed to the importance of providing a nurturing environment for small children. We must provide vital safeguards if we mean to protect the future development of small children of working parents. These are costly, and cannot be paid for by parents alone. Our responsibility as mental health and child care professionals requires that we work toward development of a national policy with national subsidy. We must do it and soon! □



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The Shy and the Sociable

Antecedents of Introversion and Extroversion

By Jerome Kagan

The history of science is marked by changing explanations of phenomena that have always been part of everyday experience, whether the daily appearance of the sun, the warmth of our breath or the ash remains of a wood fire. The common observation that some children and adults are extremely shy and some consistently sociable is as salient today as it was in the fifth century, when Galen suggested that diet and climate were responsible for the differences between these two types of adults.

During the intervening centuries, the interpretations of these two psychological profiles oscillated between explanations that awarded most of the power to external influences—like a mother's illness during pregnancy or, in this century, family experience—or to inherent personal qualities which, in recent decades, have assumed the form of genetic influences.

Most adults will admit that they are shy with strangers during the first few minutes of contact because an initial,

brief period of restraint to some unfamiliar people is a natural human reaction. However, about 10 to 15 percent of adults are extremely shy and tense when they meet most strangers. This small group of adults finds it unusually difficult to initiate conversation with people they do not know and, as a result, prefer to avoid social situations where they must interact with large numbers of unfamiliar people. In contrast, the larger group of extreme extroverts, which comprises about 25 to 30 percent of Westerners, enjoys meeting people and experiences minimal anxiety in these social contexts.

These two personality characteristics show more impressive stability over time and heritability than do other personality traits, like ease of anger arousal, dependency or impulsiveness. Howard Moss and I published a monograph in 1962 entitled *Birth to Maturity*, which revealed that three-year-old children who were extremely cautious, shy and timid were more likely to be introverted as adults than three-year-olds who were sociable.

The combination of moderate heritability and long-term stability implies, but does not prove, that a proportion of adult introverts and extroverts inherited a physiology that provoked a slight bias toward one or the other of these characteristics. The biology is not deterministic, however. Many children who begin life with one of these physiological biases change their behavior as a result of experience. It is always possible for rejection or chronic stress to produce a shy demeanor in a person who was not born with any biological predisposition favoring introversion, and it is common for successful social relations to reduce the social anxiety of a child born with such a predisposition.

My colleagues and I have been studying these two types of children for over 12 years in an attempt to understand their natural history and underlying mechanisms, and we have arrived at some tentative conclusions. To assimilate the results of our work, it is useful to note that investigators in many laboratories, working with both animals and humans, have implicated sites in the limbic system—especially the amygdala, hippocampus and hypothalamus, and the many circuits in which these structures participate—as influencing initial inhibition and restraint to novel or unfamiliar situations.

In house cats, for example, kittens who are timid to unfamiliar events show a distinctive pattern of excitability in the amygdala that is different from the neural pattern shown by non-timid cats. These findings, together with the results of related investigations in monkeys, rats and other animals, imply that within an animal species, variation in the excitability of limbic circuits is correlated with variation in the animal's reaction to novelty.

If we assume that these facts apply to children, we should be able to detect signs of the two psychological styles in early childhood, perhaps even during infancy. The first appearance of obvious variation in shy or sociable behavior occurs during the second year. About 20 percent of middle-class, Caucasian children from supportive homes who have not experienced chronic trauma or deprivation are initially timid when they encounter unfamiliar situations—an unfamiliar room or a novel toy—and are initially shy with an adult they do not know. These children, whom we call inhibited, are not different from the average child when they are in familiar contexts, like the home. Their timid behavior is only seen when they encounter something

new and the initial restraint usually lasts about 15 to 20 minutes. Once the child feels comfortable, he or she becomes relaxed and sociable.

The uninhibited group, about 25 to 30 percent of middle-class children, consistently approaches unfamiliar people and situations quickly, often spontaneously talking and smiling. Because our society values the sociable child, about 90 percent of these uninhibited children retain that quality through late childhood.

However, many European and American families are threatened by an exceptionally shy, timid, fearful child, and as a result, impose socialization pressures on the child to control his or

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her fear and disposition to withdraw. Inhibited children wish to be less anxious and try to cope with their urge to retreat. Hence, about half of extremely inhibited two-year-olds are not unusually shy or reserved as preadolescents, even though some retain the distinctive physiological characteristics of their temperamental group.

One of the reliable physiological differences between the two groups of children involves the activity of the sympathetic nervous system and its target organs. Inhibited children are more likely to show large increases in heart rate and pupil dilation to mildly stressful events—for example, being asked to remember some words or to solve a problem. These children also show a slight cooling—about 0.2 degrees Centigrade—on the right compared with the left side of the face when mild stress is imposed. Because the activity of the sympathetic nervous system is enhanced on the right compared with the left side, the cooling on the right side of the face suggests that the inhibited children have greater sympathetic tone on the vascular system serving the face.

This difference in sympathetic reactivity implicates the amygdala because

the central nucleus of the amygdala projects to centers in the hypothalamus that monitor the ganglia of the sympathetic chain. Because some inhibited two-year-olds who became sociable by age 10 retained signs of high sympathetic reactivity, it appears that it is easier to change the external behavioral surface than the associated physiological profile.

A second difference between the two temperamental groups involves atopic allergic reactions, especially hay fever and eczema. Significantly more inhibited than uninhibited children report these symptoms, as do more of their first- and second-degree relatives. Because susceptibility to these allergies is influenced by heredity, this evidence supports the hypothesis that the two temperamental groups represent different genotypes.

These interesting discoveries motivated us to search for signs of the two psychological types in early infancy, even though infants are not shy with strangers. One clue as to where we might look was based on the fact that the amygdala receives information from all sensory modalities. In addition, circuits originating in the amygdala mediate motor excitability and crying in reaction to changes in stimulation. Therefore, if some infants were born with a lower threshold of excitability in the amygdala, they might show a great deal of motor activity and fretting to unfamiliar stimulation, while those with higher thresholds would show the opposite pattern.

Because the information summarized earlier implied that a low threshold in the amygdala and its projections was associated with inhibited behavior and a high threshold with uninhibited behavior, it follows that infants who became very active and irritable to unfamiliar events might be prone to become inhibited, while those who were relaxed and did not cry would be likely to become uninhibited.

We have been studying a large number of Caucasian infants living with intact, supportive families in order to test this idea. We have filmed over 250 infants at four months of age while they watched colorful mobiles moving in front of their faces, heard tape recordings of women speaking and smelled diluted solutions of butyl alcohol presented on a cotton swab.

As expected, the infants varied in their motor activity and crying to these events, especially to the mobiles. About 20 percent of the large group of four-month-olds showed both high motor activity and frequent crying, and

30 percent displayed the opposite pattern.

To our pleasant surprise, more of the highly reactive group became inhibited at 14 and 21 months, while more of the low reactive group became uninhibited. Specifically, 40 percent of the high reactive infants were very fearful when we observed them encounter unfamiliar people and events—clowns, metal robots, rotating wheels making noise, puppets speaking nonsense phrases—in our laboratory at 14 and 21 months, while only 10 percent were fearless. By contrast, only one of the low reactive infants showed high fear and 50 percent were fearless at both 14 and 21 months.

This is an extraordinary difference in behavior considering that the prediction was based on a 45-minute assessment when the infants were 16 weeks of age. Moreover, the high reactive infants, who showed high motor activity and frequent crying, were more likely to show a large rise in heart rate to novel events and greater cooling on the right side of the face than the low reactive group.

These results support the hypothesis that inhibited and uninhibited children differ in excitability of the amygdala and its projections to circuits involving motor activity and crying. It is important to realize, however, that only about 40 percent of the high reactive infants became unusually fearful. This implies that there is no determinism in the infant's biology. The environment always exerts a continuing and powerful influence on the child's development.

We suspect that family environments that gently urge high reactive infants to deal with novelty and stress, compared with families that protect the infant from stress, facilitate the development of a less inhibited style. But that speculation needs to be tested more completely.

It is likely that many of the adults who are diagnosed as having panic disorder, with or without agoraphobia (a syndrome with a prevalence of about 5 percent), would have displayed high levels of motor activity and crying at four months and fearful, shy behavior at two years of age. Because about 20 percent of infants show the high reactive pattern, however, it is clear that most of the reactive infants do not become panic or agoraphobic patients. The development of this psychiatric syndrome requires a host of specific environmental experiences in order for the symptoms to appear.

This research points to the impor-

tance of distinguishing between two different members of the family of emotions that psychiatrists and psychologists call anxiety. The inhibited child is vulnerable to a specific form of anxiety that is generated by encounters with unfamiliar people, settings or challenges. This emotion, which one might call anxiety to novelty, dissipates as a person assimilates the event and discovers ways to cope with it.

A very different set of conditions produces a related, but distinctively different, emotion, which can be called anxiety over one's personal qualities. This class of anxiety is acquired as a result of identification with one's parents, class or ethnic group, failure at

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life tasks that are valued by the individual, or rejection by significant others. These experiences, which are prominent in childhood, produce a special form of anxiety that is different from anxiety to novelty.

Finally, we note that acknowledging temperamental variation among children and adults can change the interpretation each of us imposes on the behavior of others, be they research subjects, friends or relatives. The popular view, which has a long history in Western essays from Descartes to Freud and Rogers, makes our ideas the primary origin of emotional reactions.

Almost every modern theory of personality assumes that provocation of motives, conflicts, standards and beliefs acquired over time can produce the specific physiological reactions characteristic of strong emotions. It is believed that the primary source of these bodily changes is in what the mind has learned. Thus, the usual interpretation of a child who is afraid of going to school is that past experiences in the family led him to develop a fear of being abandoned if he left home.

Let's play with the possibility, however, that for some individuals on some occasions, the brain generates a physi-

ological state that provokes the mind to invent some basis for the change in feelings. To return to the child with school phobia, it is possible that fear of being abandoned is not always the root cause of school phobia. Rather, for some children, temperamental characteristics produce a discharge of limbic circuits—perhaps following a stressful experience—and the sudden generation of a feeling of anxiety requires an interpretation. Because school is a place where stressful events occur, the child may conclude that he or she is afraid of school. For this small group of children, the origin of the phobia may not be primarily a derivative of past experiences with parents.

One of the consequences of this point of view is that some of us may become too tolerant of extreme emotional reactions in others because most Westerners believe that psychological characteristics originating in biology are less subject to personal control than are those that originate only in past experience. That assumption is probably invalid most of the time; it is extremely difficult to change the chronically anxious mood produced in a child who has been abused.

Nonetheless, the concept of will, which is regarded as a psychological rather than a biological process, is so central in Western conceptions of human nature, it is easier to be persuaded that each person's will can monitor moods and behaviors more effectively if they were learned than if they were influenced, in part, by the person's inherent biology.

Although this belief is neither logical nor empirically valid, it represents a potential danger to which we should remain alert as temperamental constructs gain favor in the years ahead. If a majority of American citizens become persuaded that a person has little or no control over their biology, our society will be in the dangerous position of having to excuse or to accept a large number of emotionally based actions, including asocial behavior, that are subject to psychological restraint. Humans are not simply hairless gorillas, because unlike other primates, they possess the ability to judge the morality of their behavior and, except in severe cases of mental illness, have the capacity for control. □

Jerome Kagan, PhD is the Daniel and Amy Starch Professor of Psychology at Harvard University. His most recent books are The Nature of the Child (Basic Books, 1984) and Unstable Ideas (Harvard University Press, 1989).

New Pathway pediatrics is cast in an entirely new mold. Pediatrics and obstetrics/gynecology now share a three-month clerkship in third year—including five weeks in each specialty and a week-long look, mid-clerkship, at the societal problems that bridge the two specialties.

"We wanted to interweave the clinical work on the wards with specific public policy, economic and social aspects of care," says David Link, chief of pediatrics at Cambridge/Mt. Auburn hospitals, and

pregnancy, reproductive technology and ethical concerns.

"We felt that it was urgent that students see the big picture," says Link, "particularly since it is clear that care for women's health in this industrialized country is worsening." He points to the role physicians have played historically as advocates for patients in society. As Richmond quotes Virchow: "The physician is the last advocate of the poor."

"We wanted students to know that they own these problems too," says Link.

With an additional week on the wards for each specialty, students also get more varied clinical exposures—not just on the wards, but also in ambulatory clinics, the emergency room, specialty clinics and adolescent services. During the ob/gyn block, each student spends one-half day each week in the office of an ob/gyn in order to follow at least one woman, in her third trimester of pregnancy, through labor and delivery.

The combination of the two specialties into one clerkship was intended in part to symbolize the need for the two disciplines to collaborate more. "What goes right and wrong through pregnancy and perinatally is lifelong," says Link. "It is a catastrophe for a child to be hurt by something preventable at this time."

During each five-week block, students are required to make a 15-minute oral presentation—one on a topic related to pediatrics, the other to ob/gyn. They have to complete two bibliographic searches, a skill Link feels is "commensurate with other 'tools of the trade' like the microscope or stethoscope."

There is also homework during the mid-clerkship week. One assignment for the child care discussion, for example, is to design a corporate day-care center. "It's been a remarkable eye-opener," says Link. "They start out with typical recommendations, such as ideal student/teacher ratios, annual cost per family of \$2,000, director's salary of \$55,000. Then comes the reality. They learn what it costs to run a day-care center; they read all the state regulations. And they emerge with a clearer grasp of the scope of the problem."

At HMS:

OB & Peds Share New Clerkship

director and co-initiator of what's now called the women's and children's health clerkship. "Women's and children's health issues are embedded in society: the allocation of resources, for example, shapes their health far beyond what happens to them when hospitalized."

The mid-clerkship week begins with a discussion of Head Start led by Julius Richmond—former Surgeon General and creator of that early education enrichment program, and Harvard professor *emeritus*. Link calls Richmond an inspirational role model, "the spiritual touchstone for mid-clerkship week." Each day of the week issues are tackled, guided by experts who actually deal with such problems as: infant mortality, child sex abuse, drugs and pregnancy, homelessness, world population growth, teenage

On the last day of mid-clerkship week, students make another oral presentation, this time as if they were making a proposal at a congressional hearing. A recent "congressional committee," for example, included Link, Charles Royer (former mayor of Seattle and director of the Institute of Politics at the JFK School of Government), David Blumenthal '74 (senior vice president of Brigham and Women's Hospital) and Joan Reede, MD, MPH (Children's Hospital pediatrician and director of the HMS Minority Faculty Development Program).

The clerkship planners have brought in dynamic speakers to lead discussions, both from within and outside of Harvard. Ross Berkowitz, MD at the Brigham heads a group that includes a lawyer, a hospital administrator and a chaplain "to help students through various mine fields" in a series of ethical cases.

Malcolm Potts, MD, president of Family Health International, "simultaneously enrages and stimulates" students to look at contraception and abortion, and the impact of world population growth. Irwin Redlener, MD, from Albert Einstein College of Medicine, opens his discussion of homelessness with a slide show of homes around the world, sandwiching in some abysmal habitations from New York City with pictures of Third World homes. Says Link, "He shows the students how health is intimately tied to adequate housing."

Link acknowledges that there is a debate over whether such issues are the concerns of physicians. But he strongly feels that "In these specialties, such concerns are just as legitimate as the molecular biology of diseases."

The idea for this clerkship grew from a collaboration of his and Phil Stubblefield's convictions about five years ago. Stubblefield '66, then chief of ob/gyn at Mt. Auburn, and Link were concerned that the "big picture," the reality encountered outside of academic ward medicine, was missing in rotations through their specialties—and that their one-month rotations were not sufficient to cover all the "absolutely essential," let alone the "essential" material. They wrote to Daniel Federman '53, dean for medical education,

who told them to go ahead with a proposal, that New Pathway planners had been thinking along similar lines.

After innumerable committee meetings and hurdles, and much inter-departmental diplomacy, "What had been a delightful exercise in theories of change then became an assignment to carry out," says Link. The planning committee was co-chaired by Link and Stubblefield, who two years ago moved on to Maine Medical Center. HMS launched the pilot clerkship in 1988,



Jane Liebshutz '91 and new mother Lisa Goldstein.

and three groups of students have gone through the women's and children's health clerkship. Effective with the Class of 1992, it is now required.

The student response, says Link, has been resoundingly positive. "We've heard such comments as 'This was the most powerful experience of medical school to date'. I think it has struck a resonant chord."

Revisions continue to be made; as Link confesses in his introductory handout to clerkship students: "Although the women's and children's health clerkship has arrived into the world healthy and robust, we will all endure inevitable growing pains." □

—Ellen Barlow

Other Women's Children

Before she falls asleep, Amelia allows herself a fantasy. The same fantasy every night, rationed out to those last few minutes in the dark. A little boy named Darren sits cross-legged on a travel-poster beach, his toes dug deep into wet sand, his face turned up to the blue, blue sky. He is laughing. Amelia takes the details from a memory of her own son, Alexander; last summer he chased the outgoing waves at Crane's Beach in Ipswich, Massachusetts, then ran shrieking back up the beach, to collapse, sticky from Popsicles, covered with sand, on Amelia's lap, to sit still for one brief hug, then up again to dig in the wet sand on an endless search for pirate treasure.

Darren, in her fantasy, has traveled farther than Ipswich; she imagines him on some tropical paradise island, Bermuda or Bali, Tahiti or Tobago, endless smooth sand, palm trees waving against a cloudless horizon.

Amelia's son, Alexander, is white; Darren is black. Alexander is healthy. Amelia imagines that Darren is shouting with pleasure as the cool water tickles his toes.



... A little boy is lying in the bed, eyes wide open, staring. In pediatrics, when you come upon someone who is really sick, someone with volumes of charts, piles of lab slips stamped with his name, with PRECAUTION signs on his door, someone who carries the weight of diagnostic conferences and detailed plans of care, you find a little boy in a bed. He is not even half as long as the bed. He lies perfectly still on his back, connected by clear plastic tubing to his IV bottle. The window is behind him. The TV is off. The room is full of toys, but they have a dead look to them. And you walk in and sit down on the edge of his bed.

Do you see what I mean? It is difficult for me to write about this. Listen: Darren has a tattered stuffed animal next to him, called Mouse, brown and

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pulling, one of its floppy ears almost off. When he sees that I carry a syringe, big clear tears flow up out of his eyes and down his cheeks, though he doesn't make a sound. I know from experience that he is working himself up to loud hysterics. I also know, register automatically, that the HIV virus, which causes AIDS, has been isolated from tears. I'm not afraid of Darren's tears, but they contain this virus which is killing this child, and I look at them almost with awe.

So imagine then how I feel about his blood, which also holds his death. My tourniquet is stretchy yellow tubing with little knots tied in it to hold it tight as I loop it round his arm. His nurse stands across the bed, also wearing the gown and the gloves and the mask; her eyes look tired because of what's ahead, and she grabs his arm maybe a little harder than necessary.

I see Darren for a few minutes a day, though I've known him for a long time, and I hate to hurt him. Each of his nurses spends eight hours a day cleaning and feeding him and trying to make him smile, changing his diaper and putting medicine into his IV. How can they bear it when he has to be hurt? The rules say the nurse will hold him down for every procedure. Actually, we have done away with the word "down," we just say, Can you hold while I do this or that. Can you hold for an IV, can you hold for a spinal tap. And they do, and he shrieks at them. How nurses do it I don't know. So much taken-for-granted female tenderness. When you care for a child eight hours a day, you fall a little bit in love. Eight hours a day is what I spend with my son, Alexander, on the good days, the days when I'm not too busy.



Amelia buys Darren a good-bye present, a little pink plastic kangaroo with elongated feet. Wind it up, and it does sudden somersaults, the feet flipping it up and over. When she goes up to present it, the PRECAUTION signs are down off Darren's door. Darren has no IV in. He is wearing denim pants with an elastic waist and a Red Sox sweatshirt. But he lies back against his pillow and stares straight ahead. Do not be fooled. I am not getting better. I will never get better. He will not meet Amelia's eyes.

She winds up the kangaroo and sets it on his table, and it begins to flip. Darren directs his steady stare toward

the kangaroo. In pediatrics, you always try to make the dying kids laugh. Sometimes, with the older ones especially, you get the feeling that they laugh to make you feel better, to make their parents feel better. See the funny clown, look at the mask, was that Big Bird I just saw walking down the corridor? Darren doesn't crack a smile.

Amelia rewinds the kangaroo, puts it on her head, feels it trying to kick its way out of her curls. It falls out onto the floor, and she picks it up, rewinds it once again, and puts it on Darren's tighter, closer curls, where it successfully does a flip before sliding down behind his ears. Then she screws up her own face in imitation of the plastic snout, raises her hands into the position of the kangaroo hands, and gives a bound off the floor. Looks sideways at Darren, sees him trying to suppress a giggle. So she puffs out her cheeks and then pokes them in, hard, with her index fingers, pushing the air out through pursed lips to make a Bronx cheer noise. This never fails with Alexander, and it does not fail with Darren, who distinctly snickers.



Driving home, Amelia made a conscious effort to shift over. Life had to stretch, life had to accommodate both ends. There had to be a way to leave a dying child's bedside, leave behind the decision of how quickly to let him die, and go home to your own life, to your own child. And there had to be a way to take the illness of the dying child with the right degree of seriousness, and yet still have some intensity, some appreciation, for a bad case of chicken pox. And Alexander did have a bad case of chicken pox.

The whole house, it seemed to Amelia, walking in, was full of stuffy heat and the aura of illness, like a film of dust and cobwebs on top of the normal life of the people who should be living there. Especially, the little boy who should have been waiting to jump out from behind the door in the hallway, his dagger between his teeth, his cutlass slung on a sash, his pirate hat, his eyepatch askew. He was upstairs, sipping ginger ale through a straw, his face blotched and without mischief. A house with a sick child, a house full of a child's sickness. Alexander's room felt somehow squalid, crammed with discarded toys that had failed to keep his interest. His stuffed animals lay deposed on the floor; he did not usu-

ally play with his stuffed animals, except occasionally when he required pirate prisoners. Amelia had once watched Alexander and Jeremy forcing the stuffed animals to walk the plank off Alexander's bed, rabbit after bear after monkey. Still, he liked to arrange them ritually along the side of his bed, leaning against the wall, to look down benignly on him as he slept, but now he had tumbled them off, leaving room in the bed only for himself and his itching. There were some stray jigsaw pieces among the blankets, suggesting to Amelia a moment when Alexander had given up putting the puzzle together and swept it to the floor. Alexander was lying quietly enough, sipping through his straw, with Matt in the armchair in the corner, drawing on one of his graph-paper pads. But when Amelia walked in, Alexander spat the straw from his mouth and began to wail, great big feel-sorry-for-me howls, and then thrashed his legs up and down, inevitably spilling his ginger ale.



Amelia spent a few minutes with Clark Donahue. The ward had stayed quiet enough for him to attend the custody hearing, which meant, Amelia knew, that under other circumstances he would have had a couple of hours of sleep. Still, he was good-natured as always, eager to apologize for having dragged her in, pleased now that he knew what to do if Darren got sicker, concerned now that in fact perhaps Darren was getting a little better, and apologetic that he might have caused all this trouble if Darren was not, in fact, about to die. Amelia reassured him, of course she had been glad to come in. Only an intern, deep into his own pattern of hospital nights, would have swallowed that. You're doing a very good job, she told him, aware that that was probably what he needed to hear above all; it was what most interns usually needed to hear. You're doing a very good job, don't hesitate to call me if you need me, I'm going to leave my beeper on now, so you can either call me at home or page me.

And as she said that, her beeper went off, shrill in the dim hallway. She dialed into the page system, sure at heart that it would be Matt, that he would be angry. In fact, while she waited for the page operator to connect her, she had already imagined the scenario, a feverish Alexander awake at five in the morning; where the hell are

you? Does your own child mean anything to you at all? She reached for her own lines—I'll be home in less than half an hour, I'll take care of everything, I'm sorry—quite conscious all the while of what saintly patience she would be displaying, in her fatigued state, in her weariness after being up all night wrestling with life and death. Well, up all night sitting around a Formica table.

But Matt, though he was angry, and upset, had something else to say. "Something's wrong," he said. "Something's very wrong with Alexander. Amelia, he's very hot, and he's shaking, and he won't really talk to me. He seems very sick, I can't exactly explain, but he seems an awful lot sicker than he did last night. I'm scared looking at him."

"Do you want me to come home, right now? I'm starting—I had actually left the hospital, I came back to answer the page." (How can she be lying when her own child is sick? What is she trying to fend off? She knows perfectly well.) "If you think he's really sick, though, and you want to just bring him to the emergency room, I could meet you down there."

"You mean, just load him in the car?"

"If you think he's really sick."

"How am I supposed to tell?" Matt's voice rose, almost cracked, in outrage. "If he's really sick, do you think it's safe for me to take him out like that?"

"Night air isn't going to hurt him. Honey, I can be home in half an hour, but if something's really wrong, then we just have to drive right back to the hospital. Do you want to bring him in or not?"

"I hate you for leaving me with this!" Matt said, exploding, letting it all out. "I hate you for being gone right now, with Alexander so sick. I'll never forget this." He made his voice cold and calm. "I'll bring him in to your emergency room. Why don't you go there and get things ready for us. We'll be there in half an hour or less." And he hung up.

Amelia, riding down in the elevator to the emergency room, was shaking a little. Not surprisingly really, when she'd been up all night and her son was sick and her husband was bringing him in and her husband hated her. She felt helpless before Matt's coldness; it was a million years ago that they had been warm and in bed together, a million years since they had all three sat at the kitchen table and eaten too many chocolate chip cookies.



Later that afternoon, after Alexander had woken, and condescended to eat some hospital chicken noodle soup and watch some of Walt Disney's *Sleeping Beauty* on the hospital channel, and gone back to sleep, Amelia walked down one floor to see what had happened to Darren. She supposed they would have paged her, actually, if he had died, but perhaps not; hospital news travels quickly, and the people taking care of Darren probably all knew that her own son had been admitted in the morning. She was therefore prepared to arrive and find that Darren had died.

To be honest, it was more than that. I had been prepared to trade Darren for Alexander. Shutting Alexander's door conscientiously, I had thought of that earlier hospitalization of Darren's, when he was on respiratory precautions for possible TB. It's the same sign, since the precautions to be observed are almost identical; the only difference is that with chicken pox, people who have already had the disease don't have to bother with masks, and people who haven't ever had the disease are nuts to enter the room, so, effectively, the masks go by the board. But I looked at the sign and thought of all the confused ways that Darren and Alexander sometimes have crossed in my mind. The guilt because of what Alexander has and Darren doesn't, what Darren has and Alexander doesn't. The knowledge from watching Alexander grow up that tells me what Darren *should* be doing, should want to do, should be able to do. The moments of Alexander's joy that I have wanted to transfer over, so I could see on Darren's face one of those smiles, hear one of those laughs. The contrast in birthrights, in births. And so on. So here they were, actually under the same roof. And I was ready to trade, right then and there: let Darren die, be dead, have died already this morning, if that's what it took to make Alexander better in the ER; just keep Alexander safe, and well, and himself. My boy is coming home from the hospital, back to his life, with nothing but a few chicken pox scars at worst, and if the price is that the other's time is up, that's okay with me. You will see, I think, that I was still much disturbed and frightened, and that fatigue and fear and relief and upheaval had left me at my most superstitious.

The door to Darren's room was closed, and there was a sign posted there, too, not the official printed PRECAUTION sign but a handmade construction-paper plea: Please check with desk before entering room, please no unnecessary visitors. It would be too crazy and unbearable and heartless for the hospital actually to print up CHILD DYING signs, I thought, looking at the crayoned letters, imagining the nurses who each and every time, as though it's a new problem with each death, letter the signs for a dying child's door, to keep away occasional medical students, volunteers with Nintendos, visiting clowns, and costumed Sesame Street characters.

So I knew Darren was still alive in there; I had thought perhaps to find family and friends weeping at the bedside, the enforced quiet of dying replaced by the bustle of mourning. Did Darren's grandmother have anyone to call, anyone to come in and mourn with her? She must, I had told myself so many times, she must have friends from her block, ladies from her church. I liked to think she was a heroine to her friends. Or perhaps I would arrive too late for all that and find the maintenance people already cleaning out the room.

Instead, I pushed the door open on exactly the same scene I had left behind the night before: Darren in his hissing tent, his grandmother in the armchair, also asleep. Her mouth hung open and she snored very softly, a rhythmic rasp against the endless level noise of the oxygen. I knew she would not have wanted me to watch her sleeping, and it did seem a pointless intimacy, when she had been forced into so many unwanted intimacies already, so I cleared my throat loudly, said her name, and then advanced at once to pick up Darren's clipboard so I could be studying that as she opened her eyes and pulled herself together.

This is the reality; the reality is that children do better than you think they will, that you plan for a death and prepare for a death, and then they hover and linger and hold on. Is it because they want to live, because their bodies are still straining, improbably, to heal and even to grow, not having read in the journals that there is no recovery, no further growth, no developmental trajectory to travel? Or is it just that we tend, wisely, to pessimism, so that we prepare ourselves, and then the families, for the possibility of these deaths, which are, after all, by definition the deaths we are none of us prepared for. Sappy literature notwithstanding, the

death of a child is a terrible thing. An unbearable thing. An impossible thing. I have a child, and I cannot imagine it. So therefore, when the unimaginable looms on the horizon, the unimaginable that is also the most hideously familiar of all nightmares, the parents need to be prepared.

I am getting carried away, obviously. I was carried away. Looking at Darren's nursing sheets, which reflected only a stability of extremis, a child who remained as close to death, as far from death, as he had been the night before, I felt guilty, as if I had promised his death. To whom? I wanted to call the judge and explain, the lawyer, the grandmother.

Roberta Wilson got slowly to her feet. She did not look at the boy on the bed but came to stand beside me, looking down at the clipboard in my hand. The numbers neatly registered in the tiny boxes meant little to her, I suppose, intake and output hour by hour, respiratory rate, oxygen saturation. She was not the kind of person to take tutorial in hospital routine, to check the charts herself.

"Doctor, I have something I wanted you to have." From her pocketbook, big and black and discolored slightly at the seams, she took an envelope and then put down delicately, on top of the clipboard, a studio portrait of Darren. He was dressed up for it, in a white

shirt and a red tie and a pale blue suit jacket, and posed against a backdrop painted with a rainbow. It was, amazingly enough, a happy picture; you couldn't see the thinness of his arms or legs because of the clothing, and his face, turned to the camera, was rounded into a smile. He looked like a child who would get up soon and muss his shirt and leave the tie far behind. "I wanted you to have this," his grandmother said again. "I had it made while he was home, so I would have one really good one, and I made a copy for you. And you know as well as I do, he won't look that good again."

"Thank you. Really, thank you very much."

"I had a blowup done for me, ten by twelve. You know, I have so many pictures of Darren's mother, but the only ones I like to look at are the ones when she's just a baby. I can't bear looking at her when she looks more like she did when she died."

"Maybe when more time has passed—"

"When I look at her all grown up, I just want to start scolding her, telling her that I know the way for her to save herself. Isn't it sad to think that with just a few changes she would never have been sick, she could have had children and had them be healthy, too. It wouldn't take such big adjustments, not like she'd have to begin her life all

over and live it differently."

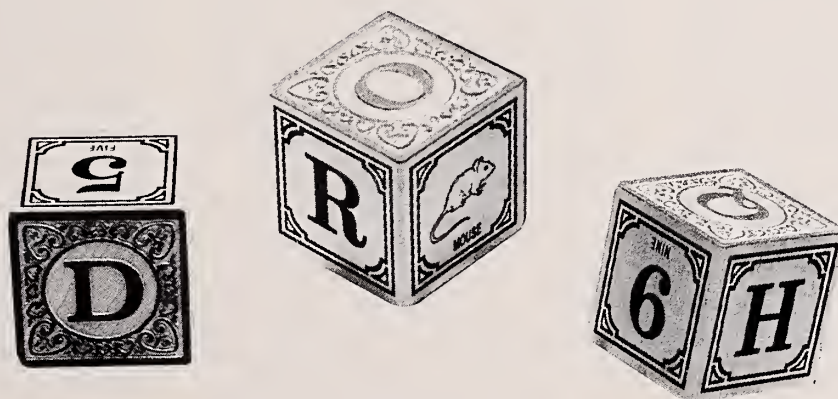
I said, "It's very sad, how we want to protect our children and we can't."

"I look at her picture and I'm not sad, I'm angry. I want to know, where does she get her nerve, looking past me and walking right on into danger? Who does she think she is, leaving me behind, leaving her child to die with me? Whoever heard of such a thing, a woman outliving her child and then her grandchild?"

The grandmother's voice was still soft and very calm. There was simply nothing left between herself and her tragedy. The little details of her life, which presumably have kept her going and will continue to keep her going, had receded from her, and she was left only with the truth, stranded alone on her desolate planet.

"It's a beautiful picture of Darren," I said. I could not join her there, and I would not try. □

Perri Klass '86 is a research fellow in pediatric infectious diseases at Boston City Hospital. Other Women's Children, from which these excerpts were reprinted, is her most recent novel. She has written another novel, Recombinations, published when she was in medical school, a collection of short stories called I Am Having an Adventure, and an account of medical training, A Not Entirely Benign Procedure.



YOUNG VISIONARIES

Picturing a Child's Mind

by Robert Coles

In 1958, during a child psychiatry residency at the Children's Hospital in Boston, I was asked by a pediatrician friend to talk with a 10-year-old girl who was sick with leukemia—then, most likely, a fatal disease. The child was utterly silent, quite melancholy—whereas most others on that ward, no matter how sick they were, even despite grave pain, somehow managed to do better than she.

As with every “consult” I did back then on the pediatric wards, I approached the girl's room with a full sense of inadequacy, anxiety, apprehension: what in the world could I possibly do, with mere talk, to be of help to someone so young, and with such grim prospects? Still, for some young patients, a conversation or two (or more) had proved useful—a chance to talk about what they were experiencing in the hospital, a chance to give voice to the worries and fears they had, and sometimes, a chance to make requests (for certain privileges, for visitors) which meant a whole lot, even when things seemed bleak, indeed.

Minutes into my stay with that girl, whose name, Helen, I still remember, I was aware that this visit was headed nowhere, fast. The girl said not one word. I introduced myself, tried to

strike up a conversation with her, and that failing, asked her questions, only to hear nothing from her in reply. She stared at me, then looked away, then reached with both her hands and her eyes for a rather tattered and forlorn doll she had at her side. I was reduced to repetition of pieties about the hospital, the outside weather, and not least, the purpose of my visit—all to no effect on Helen.

Soon enough, of course, I was calling her clinical names to myself: she was “severely depressed”; she was “mute”; and maybe, I reasoned, not just morose or sullen, but “hostile.” Fifteen minutes of such a meeting had me wondering whether to escalate my language further (talk about “hostility!”) and call her “psychotic,” or to withdraw with some minimal dignity and self-respect. I had tried to be moderately friendly, but not too chatty or intrusive, and I had failed miserably.

Suddenly, I felt a heaviness in my chest—a realization on my part of the girl's grim situation, her sovereign right to feel lousy and sad, and the futility of my kind of presence, my

talk, with its own agenda, not entirely free of a sly kind of manipulation. In no time, I'd made my departure—though, unable to surrender (I think that is the right word!), I promised (or is it “threatened?”) another visit soon.

A few days later I was back, now with some crayons and paper. In the interim I had thought long and hard about what (if anything) I ought to do. Write a note in the girl's chart, describing her resolute impassivity? Return with a renewed effort at initiating a conversation? Ask for a consult by a more experienced child psychiatrist? The last was my choice—but such an outcome was not easy to realize: I was told a several-weeks interval would elapse between the initiation of a request and the visit of the senior attending child psychiatrist. With no high expectations, I decided to “drop by”—the phrase lodged in my consciousness, perhaps, as a means of self-protection: if a repeat of the last visit were to take place, I would have less at stake, because my arrival was meant to appear casual, spur-of-the-moment.

This time Helen was largely silent, but she nodded occasionally, spoke a word or two now and then—a minimalist attitude that did not quite rebuff me,

but had me, yet again, on my toes: what to do? Well before I arrived, however, I had decided to try something out—suggest to Helen that she draw or paint, and offer to do so myself: we could choose a common subject matter and each keep busy (and quiet). I had learned to have such drawing or painting sessions when I had worked a year earlier with children who had contracted polio, during one of the last epidemics before the Salk vaccine became commonly available. Sometimes children paralyzed by fear as well as the polio virus (their lower limbs, for example, useless) were quite willing to draw pictures, and thereby communicate what they were feeling and thinking, whereas they steadfastly avoided sustained back-and-forth talking.

Five or so minutes into that second meeting with Helen, I was conscious of my right hand gripping a pad of paper, a box of crayons, a tin of paint brushes. I must bring them to the attention of this girl—but how? Unwittingly I raised my arm, and thereby put them in her range of vision. Fortunately, she responded to their new prominence; she asked what I was doing with “that stuff,” and hastily, with as much earnest conviction as I could manage, I replied—a statement both explanatory and, no doubt, evasively self-serving: the interest many children have in drawing and painting, hence the crayons, paints and paper I had with me. She was quick to ask for all I had in my hands—a great surprise. Without saying a word, she pulled herself close to the eating table that was attached to her bed, and began to use the crayons.

We became acquainted that way—as idiosyncratic a series of meetings as I’ve ever had anywhere with a child: a series of soundless spells, preceded by the tersest of introductory comments and ended by a scant word or two for our goodbyes. She would nod sometimes, as if to say please, or thank you, or yes, and I found myself following her lead with my head. I drew pictures while she did, both to keep myself busy, and to make her feel less on the spot. She often asked to look at my pictures before she let me catch a glimpse of hers—and it soon became obvious she was by far the better artist, a conclusion on her part that (I eventually realized) gave her a bit of a boost.

Some of her drawings were elaborate and elegant and carefully wrought, but the ones that had the most meaning for her, and for me, were a series of quite blunt pictures, simply drawn, starkly presented—she called them her



FIG. 2

“river pictures.” At first I thought she was simply whiling away time—maybe even keeping me and my questions thoroughly at bay. Once she did three versions of a river scene—and then told me she was tired not by saying so, but by putting her head back on her pillow and staring at the ceiling. I made a hasty departure. A few days later, she was again up for drawing—but again, a river scene got made. I was perplexed.

Only gradually did I begin to realize what I was being told by this girl—who, however, one day explicitly tipped her hand, and awakened my mind fully, when she asked me, out of nowhere, it seemed, if I’d ever been to the Middle East. “No,” I said.

“Oh,” she said. “Do you know anyone who has seen the Red Sea?”

“No.”

“Oh,” she said again. This time I dared pursue the matter in the psychiatric mode, asking what she had in mind. I can still hear her matter-of-fact, disarmingly simple response: “I was just wondering if the water was really red.”

I replied that I doubted the Red Sea was actually red in appearance. She surprised me with her comment that “maybe it is, though”—a tenacity that ought to have alerted me to the possibly charged significance of our exchange, itself an event of sorts for us. Relatively speaking, the words were flowing, so to speak—a river, actually, compared to the trickle. Yet, silence immediately

engulfed us—while Helen took another piece of paper and with some considerable energy drew her version of the Red Sea. For the first time (I noticed when she showed the picture to me) a human figure had been represented. The deep blue sea was covered by a layer of red, and straddling the two layers, in a prone position, was a mere outline of a person—head, arms, torso, legs. On one side of the picture an island emerged from the sea, and looming above the water, between the human form and that island, with its trees and grass and flowers, was an arrow pointed in the direction of the land. Clouds hovered over the sea and part of the island, but a sun was struggling to appear over the land, so far with no complete success. (Fig. 1)

I tried not to appear too anxious to possess that picture! Sometimes Helen offered me what she had drawn—a sweet gesture that spoke sentences, paragraphs: we were becoming attached. Other times she seemed to want to hold on to what she had done, even as (I realized) she was holding on for dear life: one transfusion after another in those days, when that was all, really, we doctors had to offer. That day she seemed a bit perkier—she’d just finished getting blood—and she offered her picture to me, and received from me a grateful smile and a thank you.

Later, at home, I let my mind wander and wonder—and I began to get a glimmer of what, perhaps, I was meant

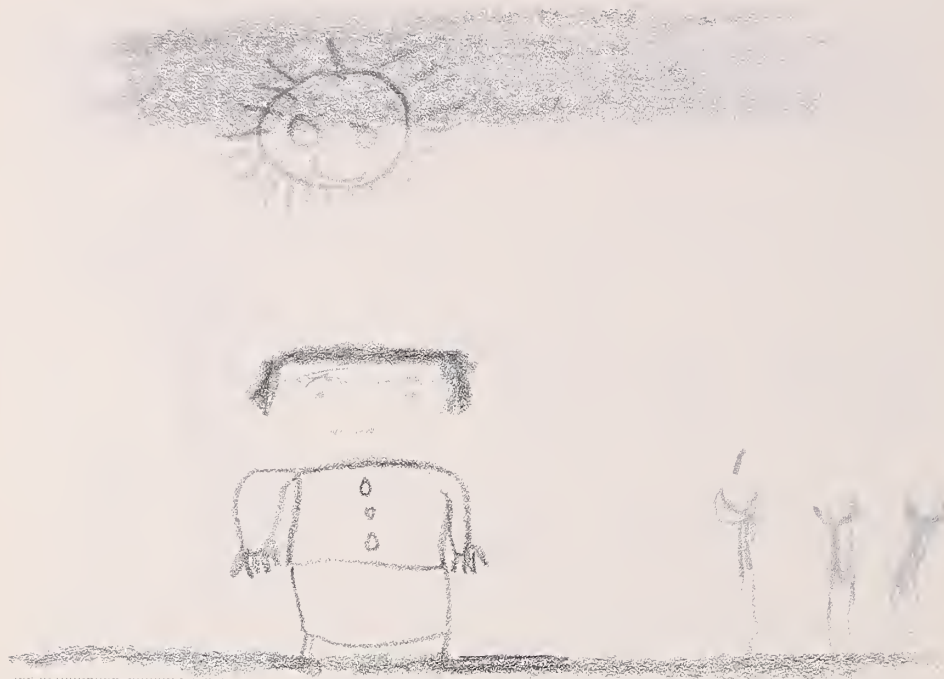


FIG. 3

to understand. I put my sense of things into a brief story: a child is trying to stay afloat, and hoping against hope that she is headed for the safety of land. Things look cloudy, but—who knows?—she might see the sun one day. Meanwhile, she is feeling blue, quite blue (despondent and grumpy), though the blood she receives (waves of red to match the waves of the blues she experiences) does offer a measure of respite, if not hope. So, in a moment of guarded optimism (and physical energy enabled by a transfusion), she tells of her low spirits, the river of (blue) melancholy that has taken her from her previous (healthy) life; and too, she tells of her new life—the sea of red in which she has necessarily been immersed, one bottle of blood after another; and she dares say what she'd like, a deliverance to the land of the healthy, even as she indicates no real conviction that such will be forthcoming.

I had no chance to go over that line of interpretive thinking of mine with Helen. A short time afterwards she was even sicker—and she died two months after the visit with her I have just described. We never did, she and I, have any extended, explicit discussion of her difficulties. All through the terrible illness with which she contended so stoically, her tight-lipped watchfulness persisted—a downcast child who had no need, it seemed, for tears or statements. Her face told it all, the eyes heavily hooded, one felt, by a furrowed

brow, and the mouth firmly locked by pursed lips. Her drawings also told much: a taciturn child, fighting that ultimate terror we all must face, sooner or later, and yet able to evoke with crayons exactly what she was experiencing.

Hers was an inarticulate eloquence—that of visual representation. Put differently, she knew how to put into her drawings a mix of the aesthetic, cognitive, emotional. She knew how to use symbols, make a subtle presentation, draw upon imagery that would provoke others to thought, inspire them to stop and figure out what she had in mind for them to know: an artist of specific intentionality and considerable narrative skill, and an artist—only much later, after her death, did I know so—who had her own therapeutic gifts.

She had figured out why I was there and (who knows?) found the strength, in an upbeat hour or two still permitted her by a punishing fate, indeed, to minister unto a young doctor trying hard to learn his lessons, and much in need of her direction, her hints and clues, her pointers. Even as that arrow had indicated where she would have liked to go—she knew, deep down, rather obviously, how slim her chances were of getting there—her doctor was at sea, as it were, too, and struggling for *his* island, that “place” in a healer’s life where he feels safely confident of what he can do, and why, and to what (therapeutic) affect.

In her own way, Helen had told me that she was ready to give me a boost in my training through that drawing—educate me in the literal sense of the word: lead me out of my nervously self-doubting ignorance, with its unfortunate veneer of smugness and overwrought talkativeness, the latter squelched by her right off! I had asked boys and girls many time to draw pictures before I met Helen; but I have always regarded my later intense interest in the artistic work of children as beginning with the acquaintance I made of her and her work with crayons.

It was then that I began going over the drawings I’d already accumulated. In the years that followed, as I worked with Southern children, black and white, going through school desegregation, or with the children of migrant workers, or with Appalachian children, Indian and Eskimo children, I often harkened back to Helen in my mind, and especially so when talking did not come easy to a child I was trying to get to know, or the subject matter we were discussing was rather hard for the boy or girl to handle with words. On such occasions, to sit at a table and draw would be a welcome alternative for the child, and for me, too—a chance to be together in a somewhat different way: both of us occupied with crayons or paint brushes, and silence not a threat or an enemy or a source of estrangement, a measure of failure, but rather, a sign of our preoccupation with color and forms, with a whole world of visual representation.

No question, when a child of, say, eight or ten sits and draws or paints, he or she has all sorts of opportunities available: a chance to demonstrate artistic skill, aesthetic capacity, imaginative resourcefulness; a chance to make a personal statement, to say something that matters to one’s heart and mind and soul; a chance to indicate what one knows—the intellectual savvy that has accrued to a particular mind; a chance to send a signal to someone, whether it be a person such as me, sitting nearby, or someone else in the life of the artist.

Over the past 30 years I have been constantly impressed by the expressiveness in children’s drawings, but also, by their pointed connection to the circumstances of the young artist. What obtains in the life of the child comes across again and again in the drawings or paintings that child makes—more so, in my experience, than is the case

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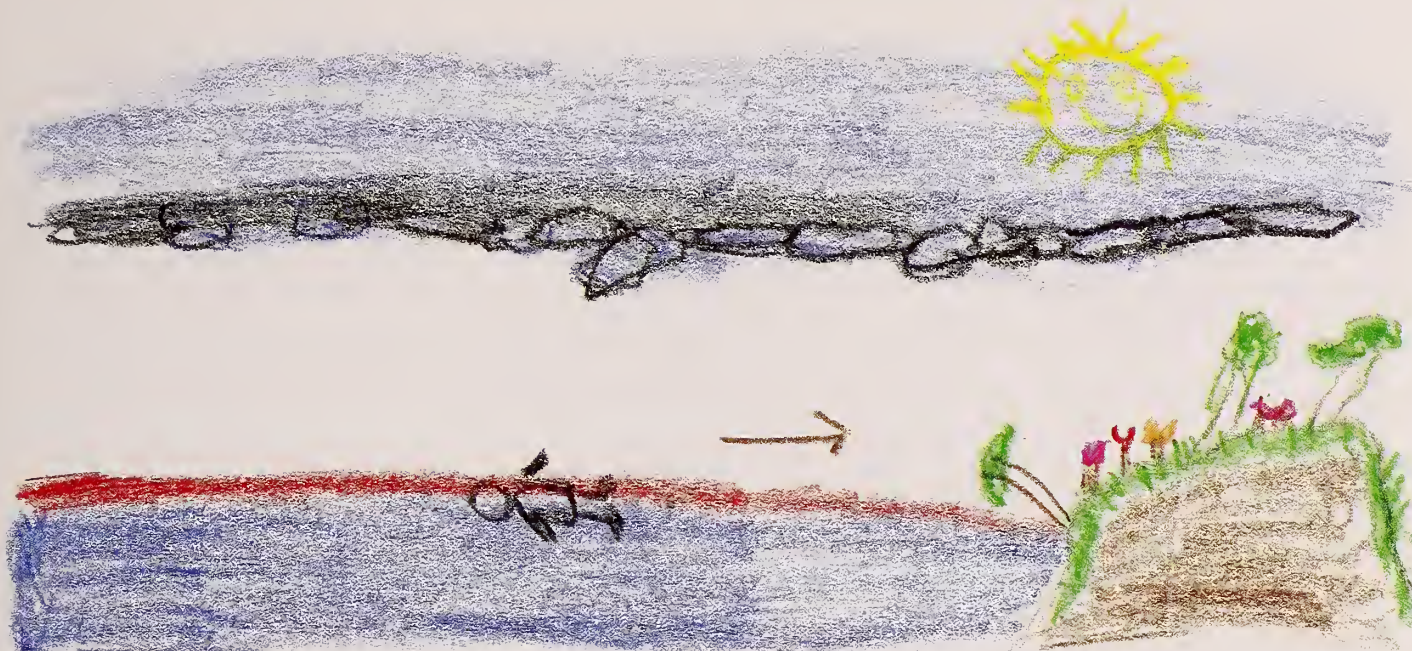


FIG. 1



FIG. 4

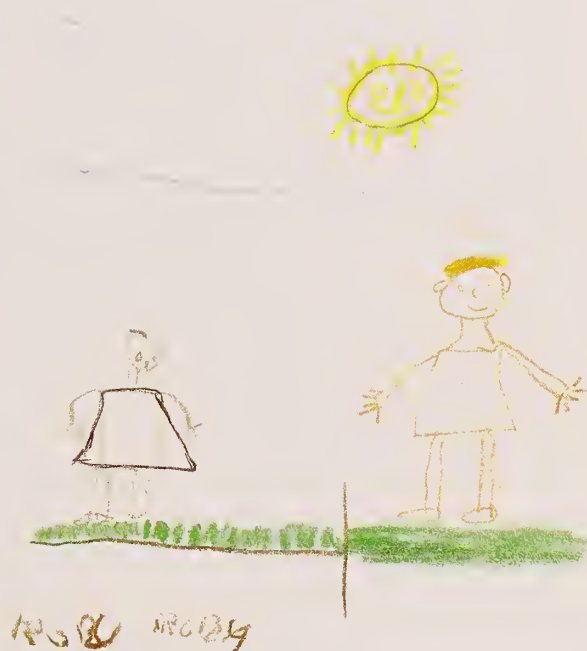


FIG. 5



FIG. 6

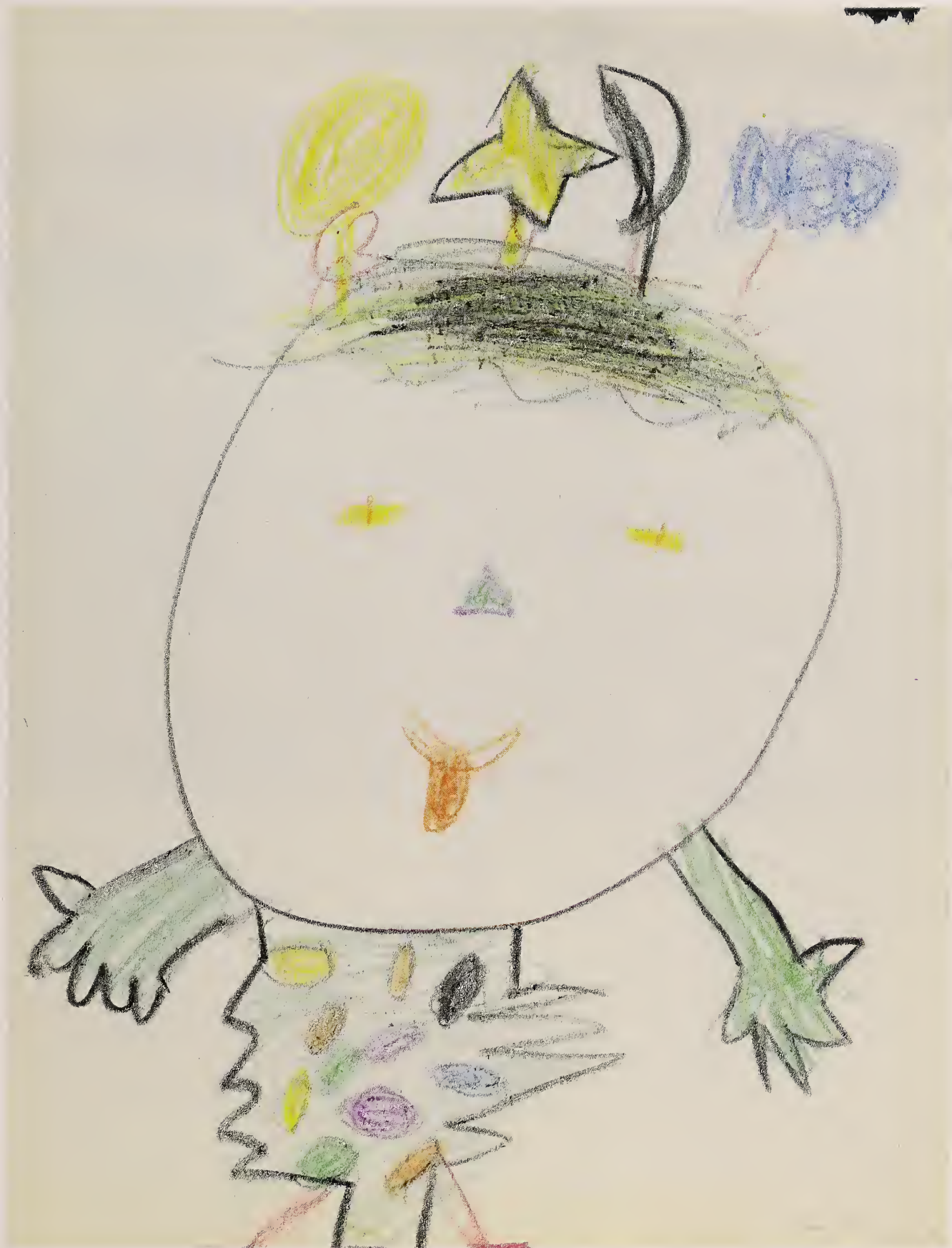


FIG. 8



FIG. 11

with much of what passes for (verbal) “communication” or an “interview.” Rather obviously, at certain moments the spoken message can be revelatory. But even adults know how to beat around the bush with words—in or out of doctors’ offices, and in school classrooms, too.

“**W**hen I draw, I try with all my might to concentrate, and that’s when I do, because nothing is taking my attention away, and I don’t have to speak,” said a Louisiana boy letting me know, in 1963, that it was much easier for him to think about the sensitive matter of race through his drawing and painting than through the spoken word. His parents, segregationists, had taught him to scorn blacks. But he had gone to a school that had finally become desegregated (after a prolonged initial boycott by the white population and much rioting), and he had learned to feel some compassion, even admiration for the lone black schoolmate in his third-grade class.

His initial drawings (Fig. 2) of this schoolmate as ill-defined, small, featureless (a notorious distraction kept in her own place, under a cloudy sky, by the dramatic placement of a tree whose branches are both bare and twisted) gave way to patient and considerate efforts to represent her fully—even giving her a place in the sun, so to speak (Fig.3).

The girl, Ruby, was of course having her own troubles estimating her prospects, both educational and personal. In one picture (Fig. 4) she showed herself near the school she had, all by herself, desegregated, but also under a rain-bearing cloud. The three figures nearby are meant to stand for the mob (some 50 to 100 people) who regularly harassed and threatened

her. This drawing is full of a child’s hopes and fears, and not least, her mind’s symbolic life as it sought expression: the flowers, what she hoped for—a time of peace, when the mobs disappeared and violence no longer threatened; the blue line over the orange bodies a way of emphasizing the otherness of a “them,” the blue-eyed, heckling strangers.

In another drawing, Ruby compared herself unfavorably with a white classmate, also a girl—her feet not so well constructed, many of her fingers missing, her arms more frail, her ears missing (“I try not to listen to all the bad things those people say,” she once told me, referring to the mob), her hair less prominent, her mouth also missing, and the sun shining over the white girl, even as a decisive brown line interrupts the grass, which grows differently on either side of that line: a child’s vigorous, detailed assertion of *difference*, of apartness as it gives shape to self-concept, to notions about the world beyond one’s own world (Fig.5).

It is not hard, looking at children’s drawings or paintings, to see the important influences of personal experience, yes, but also of race and class, region and historical moment on a child’s sense of what matters in life—the shaping forces upon the particular world a child calls his or her own. Children in urban ghettos have given representation rather sardonically or mournfully to the impoverished tenement house reality of their neighborhood existence—a broken-down, desperate version of some of Edward Hopper’s scenes of city loneliness, or of John Sloan’s “Under the El” presentations of a livelier, more hopeful metropolitan scene.

Appalachian children offer the mountains as a guiding presence—a

FIG. 7

definition of their past, their present, their future—and a means of ascent, not rarely, to God, who surely hovers near such high places (or so some boys and girls have told me). Indian children out West ignore people in favor of enormous desert landscapes, or heavenly struggles between the forces of light and darkness. Eskimo children evoke a vast tundra, infinite in dimension and powerful in its impact on any community of people or animals. The children of migrant farm workers show themselves diminutively harnessed to the demands of the growing seasons—trees and plants looming over their small bodies, (and they well know) their future lives. Children from comfortable, privileged backgrounds dote visually on their homes, their acreage, their swimming pools—a world of fun

and excitement, and one which, not rarely, they are proud to claim, even to claim vigorously (“There I am, standing [tall, I notice] near the pool.”)

These unselfconscious representations (and self-representations) of boys and girls under 10 show an array of assumptions and expectations already learned and worked into a mind’s sense of how things have been and will be. Nationality and politics also summon children to visual statements, I soon enough learned as I worked in Northern Ireland or South Africa, in Poland and Nicaragua. Protestant children in Belfast eagerly drew the British flag, even as Catholic children drew it, then crossed it out with thick black lines. Afrikaner children were no less anxious than some children of segregationist parents I knew in the early 1960s to

demean blacks pictorially—and as well, to indicate a sense of their great and potentially overwhelming number, vis-a-vis whites. Black children in Soweto present themselves with raised fists in protest, and, in imaginative flights of fancy, envisage themselves lassoing a white, skyscraper world, making it at least partially theirs, even as the toil of their parents and ancestors (in mines, stores, factories) has helped build the capital wealth of that world.

In recent years I have had many occasions to witness the moral and religious and spiritual life of children as it gains entry to their visual world—is given the relative permanence of a drawing, a painting. A Swedish girl offers her sense of the crucifixion—flowers drooped in melancholy, the air electrically charged, a grayness come upon the world (Fig. 6). An American boy drawing his version of the same event, adds this as an after thought: “Jesus had blood pouring out of Him, and he really felt sad and ‘down’ a while”—and so he appears, red and “blue.” (Fig. 7)

In London, a Pakistani child of devout Islamic faith, yet also very much taken with the blandishment and enticements of a modern Western city, whose capitalist materialism has been firmly wedded to its Christian sentiments, draws a self-portrait pointedly, even extravagantly, expressive of the religious and cultural straits he is attempting to navigate: a torso that resembles a Christmas tree, while an Islamic moon adorns his head (Fig. 8). Here are the boy’s comments, spoken in explication of his art work: “I know we are Moslems. We go to our mosque. We pray to Allah. But this is Christmas time, and people in school are talking of presents, even some of us [Islamic children]. Here [in London], Christmas is for everyone, so maybe it’s not bad [for him to be caught up in that holiday], because it’s when the stores sell all the good things ‘on the cheap,’ and you can go get them, and you have the money to pay. My mother says, ‘Enjoy their world, but remember your own, and say your prayers when you should’!”

In Israel a boy, also encouraged to pray (his parents are orthodox Jews), harkens back to the Bible, to the beginning of the world, and shows night and day being separated from each other by God, who must have no visual presence, the boy, Allon, reminds my son and me. Still, something in Allon pushes him toward a concrete presenta-



FIG. 9

tion of the Lord, or at minimum, His compelling influence, His exertions of vast import. The black circle of sorts in the upper-right-hand corner of the picture, perched between darkness and light, is described by Allon: "It's God—it's His strength, I mean; He could do that—give us day and give us night. He took that step, and He hoped it would be good for people." (Fig. 9) I look at the "object" again upon hearing that off-the-cuff commentary, and think of a giant "step," a whirl of creative energy circumscribed by an artist, who has taken his own step at rendering things, even as he tries to imagine the unimaginable, describe the indescribable—the Lord's step into our world of place and time, sun and moon and stars.

A Christian girl in Hungary has her own way of taking on such matters. She meditates first on God's "troubles"—wonders out loud how He can possibly pay attention to all the millions of men, women, children who covet such attention; wonders, too, whether He doesn't inevitably, overlook people, many people. She—the sixth of seven children—has told of her own sense, at times, that her mother has a hard time keeping track of all her sons and daughters, given a serious illness she has. The girl goes further, imagines God trying hard to find peace for himself amidst such tensions: "He must close His eyes and try to smile on each and every one of us, but it must be hard, and He must notice some [people], and not [notice] others, and I asked the nun, and she said He sees everyone, and I shouldn't think bad thoughts [that He might not be able to do so]."

Minutes later she decided to draw a picture (Fig. 10) that gave vivid expression to her worries and doubts—and that, maybe, offered a vision of a kind of peace she herself had tried to find occasionally: "I just close my eyes and pray very hard, and hope God will see me, pay attention to me, and He'll say: 'I'm going to help you out, and I won't forget you.'"

In Tunisia, a Moslem youth echoes that sentiment; with painstaking care he evokes the varied nuances and particularities of a village's life, and in so doing emphasizes the rock-bottom centrality of the mosque in that life (Fig. 11). Then, he asks aloud: "I wonder if Allah sees every single thing, or if He sometimes misses something. If you pray to Him, He'll notice—I hope." Meanwhile, he himself pays "notice," tries to see all he can, tries to represent for the viewer what he has seen.

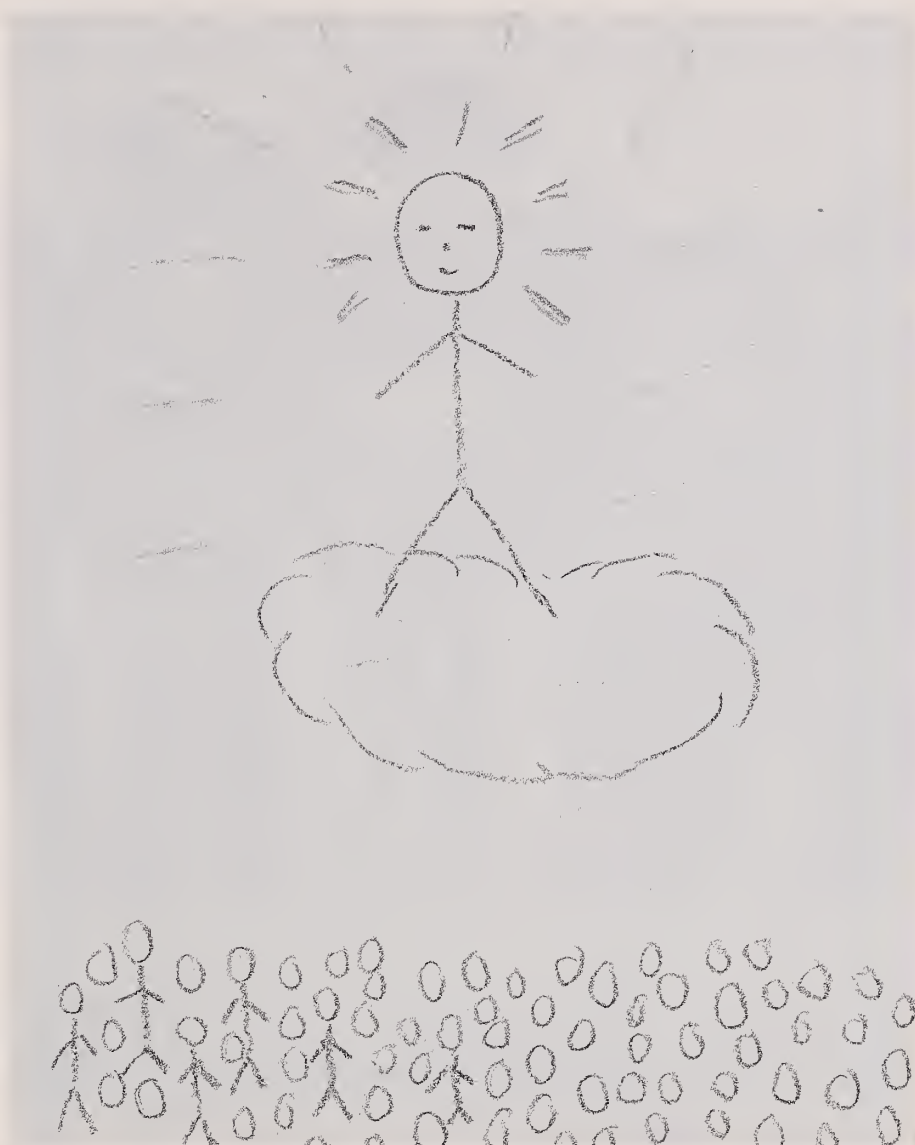


FIG. 10

It is the visionary side of a youth's life which he shares with countless others the world over: each child trying to see, trying to say through the use of crayons and paints what has been seen; trying to give visual expression to a world glimpsed, a world scrutinized and searched for meaning.

When I look at such a drawing, when I recall all those pictures I have seen drawn (and discussed), I am reminded, yet again, how earnestly and strenuously children the world over struggle to comprehend the world, seek out its beauties and mysteries and terrors, give them the substance of shape and form, of color, of suggestive or symbolic significance. Hands at work with crayons, pencils, paint brushes, have responded to minds and

hearts at work trying to define and catalogue and sort and fathom and convey and relate and render: the particular, figurative, expressive efforts of boy and girls as an aspect of something much more—children as budding visionaries, an early version of the essence of what we turn out to be as human beings. □

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Improved Prognosis

Clinic-Raising in Amish Country

In 1988 when Holmes Morton '83, then a research fellow in metabolic diseases at Children's Hospital in Philadelphia, made his first diagnosis of a rare genetic disorder called glutaric aciduria in a young Amish patient, he never anticipated how his life would be completely changed. Compelled by the urgency of the disease's sudden onset of brain injury and paralysis, and his conviction that such damage can be prevented, Morton has redirected his life to focus on the health care of this community.

This focus has evolved beyond diagnosis to work that both reflects and reacts to the pervasiveness of this disease on these people. Morton, along with his wife, Caroline, has established

by Terri L. Rutter

the Clinic for Special Children, a facility dedicated to the research and treatment of glutaric aciduria and other genetic diseases among the Amish Mennonite communities of Lancaster County, Pennsylvania. A front-page article in *The Wall Street Journal* brought national attention to Morton and his patients, as well as funds and support to help open the clinic in January 1990—an opening that followed two years of a dizzying mix of frustration, threat of failure, and finally several small but thrilling victories.

Following that initial diagnosis in

1988, Morton, through an appointment at the Kennedy Institute in Baltimore, began researching the disease. This meant days of field work making house calls and collecting urine and blood samples for testing—all conducted from the trunk of his car—and working nights and weekends at the Bryn Mawr Neonatal Intensive Care Unit to support himself. He now works full time in the clinic as its director and only physician, while Caroline is associate director of administration and serves as the clinic's treasurer. Richard Kelley, MD, a pediatrician and geneticist at the Kennedy Institute, who initially supported Morton's research and provided him with laboratory space, acts as backup support while Morton is away,

and has monthly consultations on the clinic's patients.

Glutaric aciduria is a paralyzing, often fatal disease prevalent among Amish children. The diagnosis had eluded researchers and physicians in Philadelphia and Baltimore for years. In fact, only eight cases of the condition were documented in the medical literature, until Morton found 15 cases among this Amish community in just over a year.

Children with glutaric aciduria are born healthy, but because of a genetic defect, protein isn't metabolized normally during usually minor illnesses, such as diarrhea, chicken pox or infection. An infant with glutaric aciduria may be healthy for the first six months of life, until an illness strikes, which can cause the child to go into a coma and die within 48 hours. If the child survives this episode, he/she can suffer from a steady and quickly-moving paralysis. And, says Morton, once a child's paralysis progresses beyond a certain point, not much can be regained.

Susan Miller, an Amish mother of five children with glutaric aciduria, two of whom have died from it, described her experience in *The Wall Street Journal*: "The sickness comes on so fast. Two of ours were taking a nap. When they woke up, they were helpless."

Morton estimates that as many as one in every seven Amish people in Lancaster County carries the defective gene that causes glutaric aciduria, and that one child out of 200 may be stricken with the disease.

The Amish in Lancaster County are descendants of a small group of Swiss Annabaptist immigrants. Their lives are like those of the early settlers. They live simply, work mostly in farming and carpentry, travel by means of horse-drawn carriages, eschew commonplace luxuries such as electricity, and are forbidden to marry outside their religious order. Glutaric aciduria is one of several genetic disorders to which the Amish are vulnerable.

Yet what was once a hopeless situation for these families has been graced with a careful optimism with Morton's relatively simple, though potentially lifesaving, therapy. At-risk children are placed on a protein-restricted diet, supplemented with riboflavin. To prevent dehydration during illness and the subsequent buildup of toxic acid, the sick children drink lots of fluids and sodium bicarbonate.

This disease has had a devastating impact on families such as the Millers. Twelve years and thousands of dollars in doctors' visits and medical tests had failed to produce any leads until Morton made a successful diagnosis.

Morton realized, however, that a correct diagnosis wasn't enough. The disease needed to be tracked, treated, researched and, in any way possible, prevented. How to do all that, keeping the Amish community's cultural and financial realities in mind, inspired the idea for a nonprofit clinic in Lancaster County, supported and operated by the Amish and Mennonite communities.

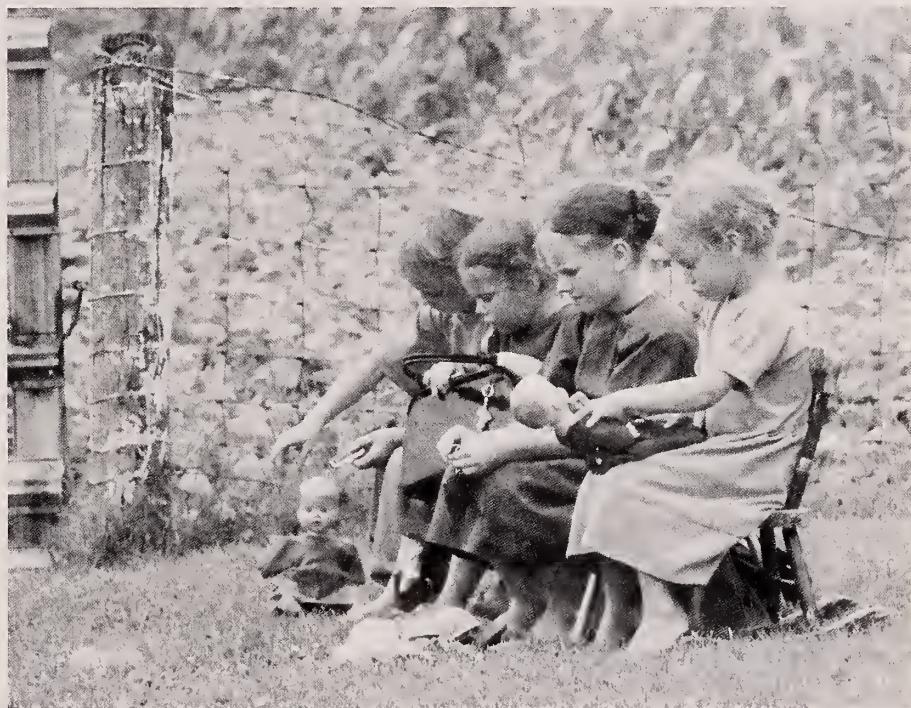
Once the idea was in place, the next step was how to finance such a thing. And that, of course, proved to be the most difficult part—both practically and emotionally for Morton and his family. "My family has by necessity been part of the effort," says Morton. "When difficult decisions had to be made that changed the course of my career and left us financially vulnerable, Caroline invariably supported my

often distracted by our work. I can only hope that our children will remember laughing, running with Amish children through barns and fields, making Saturday house calls with me, and equally important, I hope they do not forget the crippling of Ruth, Alivin, Levina, and so many others."

When initial requests for grants and funding didn't pan out, Holmes and Caroline decided to take out a second mortgage on their home to add to the \$150 in the organization's budget. At that point, Penny Armstrong, a midwife who had worked in the community for 10 years and had been assisting Morton, contacted *Wall Street Journal* staff reporter Frank Allen.

On September 20, 1989, a front-page story in *The Wall Street Journal* about Morton, his Amish patients, and his need of funds to build a clinic, worked with the speed of Aladdin's lamp in granting Morton's wishes.

Within hours after the article appeared, a local man called and said he was sending a donation of \$25,000.



decision to continue the work in Lancaster County. She shared my sense of the importance of the scientific work and agreed about the need to keep my promises to the Amish families. There were times when her encouragement was the only encouragement I had."

Morton admits that in his work to help the lives of the Amish children, the lives of his own children have changed. "Caroline and I are too often away from home or when home, we are

Soon after, a woman in Connecticut called and said she was sending a check for \$100,000. By early November, 225 readers from 37 states had sent roughly 250 donations, along with promises of donated lumber and architectural services. In addition, all the laboratory equipment was donated, including the Hewlett-Packard mass spectrometer, used to analyze the blood and urine samples and valued at \$82,000.

"For about a week it was really fun," says Morton about the turn of events. "The number of calls and amount of interest that article generated was incredible. After that, there was a tremendous amount of work to figure out how to do this."

Although the clinic has been operating out of donated space at Lancaster General Hospital since its opening, its own facility within the community is in the final planning stages. Since it is essential that the clinic be a part of the Amish Mennonite community and not outside it, the structure itself will utilize the same post-and-beam construction used in Amish barns, and will be built in the same way—with a community "barn-raising"—on land donated by Amish grandparents whose grandchild had recently been diagnosed with glutaric aciduria. (With Morton's treatment, however, the infant has remained healthy.)

The clinic will become fully integrated into the Amish culture. Just as the Amish have their own schools, this will be their own health center. "Ultimately the success of the clinic will depend on its becoming recognized as a facility that's really there for



their purposes," he says. It is essential, he argues, that the Amish not only contribute to this clinic, but that they also participate.

"There's not a lot of money in the Amish community. But there is a lot of labor and know-how for doing construction," says Morton. And, he says, a sense of caring for each other. "What is unique about Lancaster County and the Amish and Mennonite communities that I work with is that they are a community of people who look to the welfare of one another."

This sense of community is intertwined with the delivery of rural care, argues Morton, who himself hails from a small West Virginia town. The Amish community does not depend on traditional forms of health insurance to cover the cost of health emergencies. Instead, it has its own form of community insurance, whereby families donate to a central fund that is used to pay for the care of a member of the community who may need it. With the case of glutaric aciduria, the onslaught is so sudden, the cost of caring for the paralyzed child is so high, and so many children have been stricken at once, that even these funds have been seriously drained. The cost of extensive testing and medical procedures has wiped out life savings and has resulted in the need to sell land that has been in families for generations.

The keys to serving rural communities, the Amish and Mennonites included, says Morton, are house calls and simple preventive care, such as immunizations and screenings for such things as lead and TB, and, in this community, metabolic disorders such as glutaric aciduria and maple syrup urine disease, another prevalent affliction among these children.

The argument for such early intervention, especially among the Amish, can best be examined economically. Morton explains that the cost of taking care of a child who has glutaric aciduria over a five-year period is about \$75,000 per child. "But when you look at what it would cost to invest in a system of care that would prevent that kind of illness—not much more than \$75,000 bought the equipment I needed to set up a testing program—the individual financial toll is lessened considerably. For example, the actual cost of testing 4,000 children for glutaric aciduria would only be about \$25 per child." Economically, argues Morton, the Amish and other rural communities simply cannot afford not to have similar clinics available to them.

"One of my jobs," says Morton, "is to educate the community about why preventive care is so cost-efficient. A little bit of investment by the community goes a long way towards solv-





ing what is a terrible problem—both an economic problem and a human problem.”

Educating health care workers is



Holmes Morton in front of a mass spectrometer at the Clinic for Special Children.

another of Morton's facilities. Morton, who keeps his ties to the academic and research communities through an appointment in pediatrics at Johns Hopkins University, frequently gives talks about metabolic disorders to family practice residents, midwives and gatherings of parents in Lancaster County. In those talks, he places glutaric aciduria and maple syrup urine disease, among other metabolic defects, in the same perspective with regional disorders in other areas, and stresses the need to adapt local health services to accommodate problems particular to that region. For example, practitioners in New York City need to be educated about AIDS, drug abuse and sickle cell disease to effectively treat their patient populations, just as doctors and midwives in Lancaster County need to know about the genetic disorders that are common in the Amish Mennonite communities in which they practice.

Essential to the clinic, well equipped with a metabolic laboratory, is its research component. Morton's

research suggests that glutaric aciduria is responsible for 50 percent of the cases previously designated as cerebral palsy. Cases recently diagnosed in several older children raise questions about the relationship between high glutaric acid levels and psychiatric disorders and other forms of movement disorders related to basal ganglia damage. Clinical studies to better understand this and other similar metabolic disorders is an integral part of the clinic.

He also strongly believes that glutaric aciduria is a treatable disorder and that brain injury brought on by the disease can be prevented. “This is the most important motivation for my work,” he says. “Initially, this realization inspired my research. Now, it provokes a frightful sense of responsibility for the families and children, present and future, who have come to depend on me and who share my hope.” □

Terri L. Rutter is assistant editor of the Harvard Medical Alumni Bulletin.





URBAN ANGER

Take Back the Streets

by Gloria Johnson-Powell

The *Boston Phoenix* newspaper, in a special series this past year entitled "Gangs, Inc." by Sean Flynn and Ric Kahn, highlighted its May 4 report, "Mayhem and Mergers," with the following words:

"Over the past five years, Boston gangs have grown from disconnected knots of delinquents to form an increasingly sophisticated 'Misfortune 500' complete with beepers and car phones—as well as shotguns. And like their corporate counterparts they're pooling their resources to leverage their muscle and maximize their drug profits."

Flynn and Kahn report that there may be as many as 4,000 to 6,000 Hub kids involved in gangs. However, the Boston Police Department publicly announced in March 1990 a figure of 830 gang members with an unknown number currently in jail.

The city's gangs consist of black gangs, Latino gangs, white gangs, girl gangs, white-black-brown gangs and an unknown number of "wanna-bes." They operate primarily in Roxbury, Dorchester and Mattapan, but have spread beyond those neighborhoods into downtown Boston, South Boston, Roslindale, Brighton and Jamaica Plain. Their activities are many and

varied. Whether exaggerated or not, the number of drug/gang related deaths in some of Boston's neighborhoods has escalated between 1988 and 1989. Indeed the proliferation of gangs, according to Flynn and Kahn, "has created a scenario in which [hostile gangs] live in very close quarters"—a situation that is especially prevalent in Dorchester.

The *Phoenix* series on Gangs, Inc. presents some worrisome details—the same details that one reads about in Chicago, Detroit, Los Angeles and Oakland. The common theme in each of these cities is not just the drugs, the guns and the violence, but that this is the survival mechanism for our urban disenfranchised and disaffected youth who have no other way of life and worse yet perceive no other way.

According to *Black and Minority Health* (1985, Margaret Heckler, U.S. Department of Health and Human Services) injuries, intentional and unintentional, are among the leading causes of death for all age groups in the United States. Most striking, however, are the homicide rates among Afro-Americans. For Afro-American males between the ages of 15 to 44, homicide is the leading cause of death.

Although higher rates of homicide

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among Afro-Americans are found in all regions of the United States, the homicide rates are particularly highest in the largest cities of the nation. Afro-American males have the highest rate of homicide: 69.2 per 100,000, compared to 10.3 per 100,000 among white males. Afro-American females have the second highest rate of homicide: 12.9 per 100,000 compared to 3.1 per 100,000 for white females.

These statistics, however, are for 1981, at the time the Subcommittee on

Homicide, Suicide and Unintentional Injuries was meeting in preparation for its 1985 report. Subsequent reports from police departments and other local and national sources indicate that the numbers have increased not only for Afro-Americans, but also have increased significantly for Hispanic Americans.

Thirty years ago I spent most of my time in medical school organizing a national nonviolent student sit-in movement and freedom rides to promote racial equality and to help insure that every child would have access to life, liberty and the pursuit of happiness. During that time, when the situation became tense—with many students wounded and jailed, a press black-out, declining funds—we students had a meeting with Dr. Martin Luther King Jr. to contemplate new strategies to continue the freedom rides, and to send the message that we would not be deterred by violence, or by attempts to ignore us or discourage us. At that time I suggested that I take a leave of absence from medical school and go North and West to recruit more students. Dr. King looked at me sternly, pointed his finger at me and said, "You will stay in school because one of these days we are going to need you."



PHOTO BY LINDA HAAS

As the dreary statistics of drug- and gang-related shootings increase, the numbers of youngsters dropping out of high school increase, and the incidence of teenage pregnancy and infant mortality, especially in Boston, continues to rise, I sometimes falter and ask questions, the answers to which I am afraid to answer.

Has the mission of the 1960s been completely lost? Nonviolence seems to be but a fleeting glimpse of the past and our children's lives are filled with depictions of aggression and death at every turn. Violence has become a necessary way of life and the only means for survival for a large segment of our children and youth—not just during adolescence but also during early childhood. Indeed, there are many indications that childhood per se is disappearing. The innocent, carefree, blissful depictions of childhood are not a reality today, not only for the poor but increasingly for the middle class also.

In my search for answers, I've re-read Erik Fromm's *The Art of Loving*, a longtime favorite, and Bertrand Russell's *The Conquest of Happiness*. However, the problems for the children and youth of the 1990s seem to be articulated more eloquently by Kierkegaard, who describes the fear and trembling and the sickness unto death—the angst of human existence. He describes a series of identity crises that most individuals traverse in their search for meaning in their lives; the despair at not being conscious of having a self, despair at not willing to be oneself, and despair at willing to be oneself, however one goes about defining that self in these turbulent times.

As adults we seldom consider despair as a phenomenon of childhood. However, as we have come to understand childhood depression and its manifestation, we may be better able to understand the despair, the hopelessness, the alienation, and the disaffection for the self and for others that many of our youth experience.

Carroll Izard, in his book *Human Emotions*, defines 10 universal human emotions, and enumerates the ways in which each of these universal emotions are expressed and are determined by mores and norms of specific cultures and societies. It must also be remembered that while cultural mores and norms determine how emotions are expressed, there are also individual differences that may play a role.

The fundamental emotions that Izard identifies are interest-excitement, joy, surprise, distress-anguish or sadness, anger, disgust, contempt, fear,



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shame and guilt. In my own experiences in talking and mingling with California gang members, ages 8 to 29, in Watts, Venice and Oakland as a member of a special task force on gangs, these children, youth and young adults talked about their anguish, anger, disgust, contempt and fear—all part of their repertoire of intense emotional feelings regarding their view of their lives, communities, schools, country and the world they perceive. Many of these feelings for many of them have idiosyncratic, socio-cultural, and painful ways of being expressed—mostly in self-destructive ways. These kids fear themselves as much as they fear the outside world. The only joy they may ever experience is the instant fame and importance they gain from their destructive acts.

The role of stress and the absence of the socialization process usually performed by the family, the culture and the society may also play major roles in determining how emotional states are expressed. Biological, biochemical and genetic factors also have a mediating factor. Nonetheless, children live what they learn. The expression of anger, depression, aggression and violence among our youth may well be a mirrored reflection of what they are learning not only in their communities, but also in their homes, as well as from those designated as world leaders and important people.

Our culture is one in which everyone travels in the fast lane. There is little time to consider the feelings of others. In order to succeed one must be narcissistic and aggressive—aggression that may be expressed in asocial and noncaring ways. We push our children up and out of the cradles too early to separation, individuation and competition.

However, there are many who never make it into the fast lane of success and barely survive economically or socially. We have only to look at the Boston Foundation's report on persistent poverty to understand the prevalence of poverty in many of Boston's communities. The health statistics also clearly demonstrate the growing number of "have nots" in terms of prenatal care, premature births and infant mortality. The war on poverty has been lost and the lost ones, the alienated ones, the "have nots," have now declared war on themselves and on those who "have."

Although the proliferation of gangs

and drug-related homicides can be viewed as delinquency once was in the 1950s and 60s—i.e., that delinquency can best be understood as an adolescent solution to problems of adjustment—we have only to listen to a poignant and well-known ballad of Tracy Chapman's to know that we are watching the beginnings of a revolution:

Don't you know
They're talkin' about a revolution
It sounds like a whisper . . .

While they're standing in the welfare lines
Crying at the doorsteps of those armies of salvation
Wasting time in the unemployment lines
Sitting around waiting for a promotion

Poor people gonna rise up
And get their share
Poor people gonna rise up
And take what's theirs . . .
Finally the tables are starting to turn
Talkin' bout a revolution*

How can we avert it? Maybe we can begin with the very young, but it will take the collective good will of many working *consistently* for several decades or more to create a system of care that is multifaceted and responsive to the unmet needs of our most desperate youth.

Maybe, and just maybe, if we begin today we may be able to prevent that 39 percent of youth and young adults who will be functional illiterates by the year 2020—those who will be unable to participate in the work force and thus unable to contribute to the social security insurance for the rapidly expanding elderly population. The problem is no longer just a gang problem or a poor people's problem or a minority problem, it's a national and international problem. It's my problem and your problem; it's my grandchildren's problem, and yours.

The revolution has begun, and the course of it will be determined by what good people, who want a brighter future for all children and do not believe in doing nothing, decide to do now. I still hear Dr. King's voice admonishing me to stay in school. It's difficult to determine what will be needed from me, but remembering his courage, I cannot surrender to despair.

On November 4, we had a celebration—"Celebrating Rainbows: Partnerships in Prevention." It was an open house reception for those from community-based organizations, who work daily with children and youth in Boston's impoverished neighborhoods, to see Judge Baker Children's Center mobile home, which has been converted to a mobile resource center.

The Judge Baker Children's Center launched its new van, which will make the center's services more accessible to those families and children who feel trapped in their homes and communities because of the violence that surrounds them. In addition, the Judge Baker Children's Center wanted to recognize people and organizations in those communities who have been "building rainbows" by their dedicated services and advocacy on behalf of children and youth. Our message and that of our partners is quite simple: "We are here to help you help your children be a healthy and educated person in the 21st century."

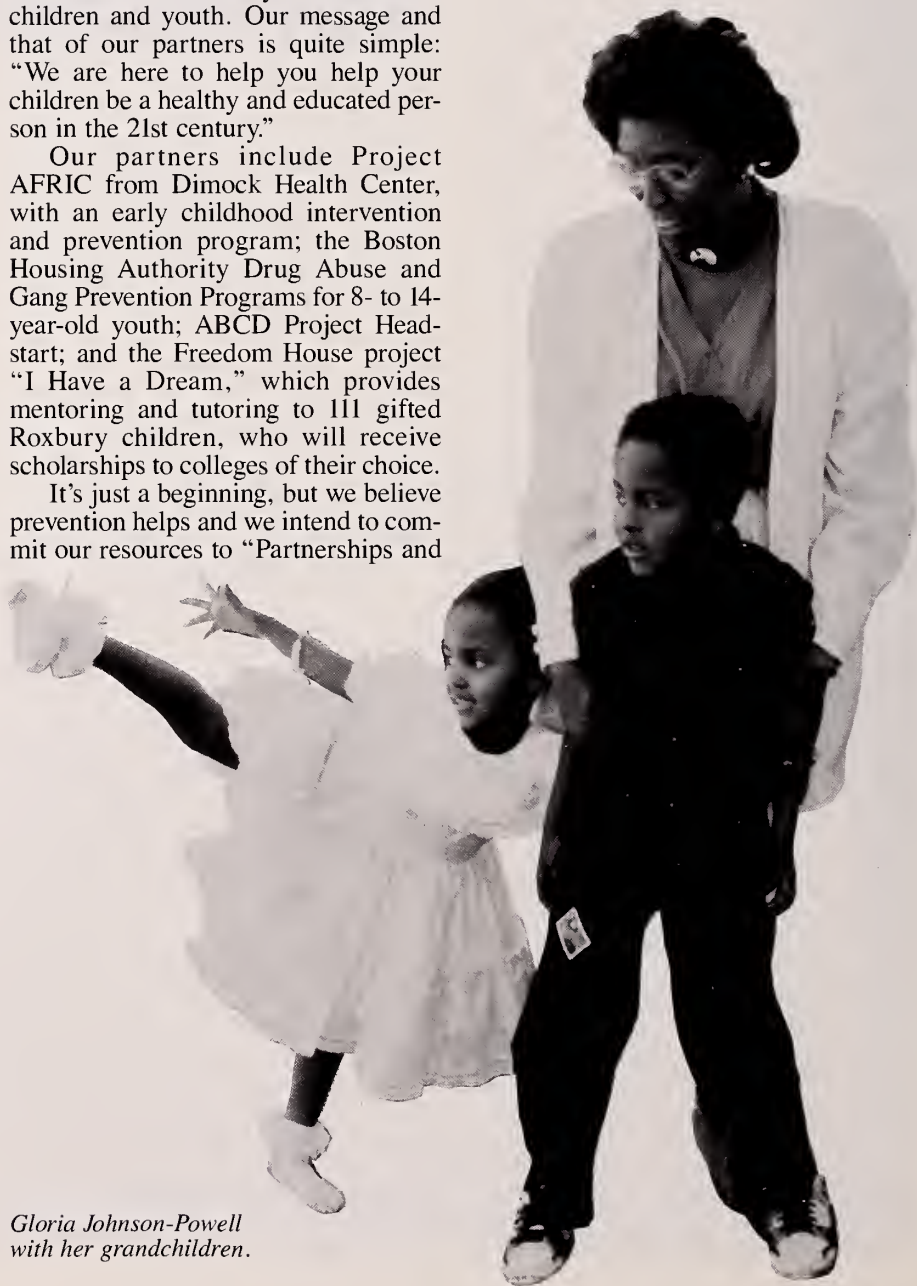
Our partners include Project AFRIC from Dimock Health Center, with an early childhood intervention and prevention program; the Boston Housing Authority Drug Abuse and Gang Prevention Programs for 8- to 14-year-old youth; ABCD Project Headstart; and the Freedom House project "I Have a Dream," which provides mentoring and tutoring to 111 gifted Roxbury children, who will receive scholarships to colleges of their choice.

It's just a beginning, but we believe prevention helps and we intend to commit our resources to "Partnerships and

Prevention: Building Rainbows." Our mobile services van began its services in October. Any and all of you who believe as we do, that we can make a difference, can join us in our efforts.

"Yes Dr. King, I know they need me. I'll do my best. I'll try." □

Gloria Johnson-Powell, MD is a professor of child psychiatry at HMS, and the first director of the Camille Cosby Ambulatory Care Center at the Judge Baker Children's Center. In June of this year she became the first African-American woman to receive a tenured professorship at Harvard Medical School. She grew up in Roxbury and attended Girl's Latin School, Mount Holyoke College and Meharry Medical College.



*Gloria Johnson-Powell
with her grandchildren.*

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MEDIA'S CHILD

Minding More Than Our Own

by Janine Jason

The world's threats increase precipitously when you become a parent. One inextricable element of parenthood is anxiety. What will come to harm your children? How will they harm themselves? How can it be prevented? As a parent I endlessly experience these anxieties. As a pediatrician I listen to and empathize with the anxieties of other parents: irrational worries, realistic worries, all deserving of a hearing.

By also working in public health I have managed to observe and share yet another level of anxiety: anxiety about our society's children. These are anxieties that we all should feel, but it's easy to ignore these problems as being those of "their" children, not our own. But when you work in public health it is more difficult to hide from the truth—the reality that these are our children and these are our problems.

My experiences as parent, pediatrician, and public health worker have provided me with grave anxieties about the problems faced by our children. While I cannot provide answers, I

would like to provide some structure to these worries and through that process argue that these are not their problems, but our problems.

To any child, the world of adults is omnipotent and threatening under the most protective circumstances. The values children perceive us to hold have inestimable impact upon their own. But these values are not limited to those we think we are instilling in our homes. Thanks to the pervasiveness of audiovisual media, the values displayed to our society's children—even very young children—go far beyond our personal examples and lectures. And understandably so. Media appeal to the senses. In one memorable scene, media can undo months of tedious, heartfelt and well-intended lectures.

And what do we, through the media, tell our children is truly of value in

the powerful adult world that they are so eager to join? What are the virtues that we, through the media, increasingly portray to younger and younger children? Materialism certainly. This is the most obvious in the advertising. Allowed one hour of television a day, my own children can still sound like they live in a commercial. Granted, commercials were an essential element of children's television even in my own youth, but we are now taking materialism to new heights. Masses of young minds are convinced that they cannot survive without a certain doll, a particular athletic shoe, this or that compact disc recording.

I used to enjoy being invited each year to several "magnet" schools to talk about "what it's like to be a doctor." But several years ago, all the students' questions began quite suddenly to be "what kind of doctor makes the most money?", "has the biggest house?", "the neatest car?" I just could not get those kids to understand that money was not a reason to go into medicine, that material goods were just

not the nature of the reward.

Media don't create our social norms, they just select the norms we will pay to see portrayed. And by selectively portraying and reinforcing our values, media alter those norms in unattributable ways. How do we see sexual worth described through the visual media? Manliness is very often defined as violence, bad enough when shown operating inside socially-defined lines of authority, but even worse when shown acting outside of or against a corrupt legal system.

Violence is increasingly graphic. Our adolescents and preadolescents see characters chop off arms, heads, private parts. They watch their heroes eviscerate innards or just explode enemies skyward. The acts of violence can be original, unpredictable and exciting. But what are our children learning about what a man should be like? What are they learning about what they should be like?

And what of womanliness? Female characters are sometimes allowed to have careers or independent ideas, but these rarely define the female characters' worth. Rather, her worth is defined by her appearance and desirability to men. Is it any wonder that adolescent girls mourn each and every blemish, and that they cover near flawless skin with cosmetics? That they "die" for one article of clothing or another?

Then there's how media put these male and female homunculi together and present sexual interactions. This is perhaps most obvious in music videos. I certainly wasn't opposed to this genre when I was first exposed to it. I approached it as a new and evolving art form. But by the time our older daughter was 18 months old, she had learned how to turn on the remote control and dance along to MTV. It was seeing the videos through her eyes that dulled their appeal to my own.

Sex is portrayed in association with images of violence, fire (very popular) or sadism. Let's face it, a meaningful relationship cannot be readily portrayed in two or three minutes. But the excitement, the physical power, the loss of control in sex certainly can, especially when it is presented in association with the types of violence children have seen many times before.

I don't mean to indict the mass media—television, movies, records. They sell only what we will buy. And in this instance the "we" is very much you and I. Until recently, marketers did not target ghetto youth—these children have merely been caught up in the mar-

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keting undertow. They target upper-middle-class consumers. We are the ones with the money and who give that money to our children.

It would be hypocritical to pretend that the values the media are providing our children are not our own. But we all know that the key to being civilized is to direct these less than admirable and potentially dangerous values in a socially acceptable fashion. Children's beastie natures are much closer to the surface and are not always countered by the environment around them. It is our job, as parents of our own children and society's children, to temper the images that surround them and provide balance.

I first came to the Centers for Disease Control 10 years ago to devote myself to child health problems. My first year I explored Georgia's child abuse registry, and then the FBI crime reports and vital statistics data on child homicide. While in college I had worked at Chicago State Mental Hospital, was on a prison health committee in medical school, and I had moonlighted at a remarkably good inner-city community clinic while at Yale doing bench research in immunology. With all these past experiences, I naively felt quite confident that I understood the violence surrounding many of the children in our society.

But during my second year at CDC I got involved in the Atlanta child homicide investigation, and examined hundreds upon hundreds of police records of assaults involving children. These opened my eyes to the point of being exophthalmous.

The violence surrounding these impoverished, inner-city children is incomprehensible to those of us fortu-

nate enough to exist outside that subculture. Little wonder that some of these children rapidly acquire violence as their response to the slightest of insults. Violence is the social norm, reinforced through the media. The surprise is not the violence, but that many children from this environment, specifically male children, escape being spontaneously violent in their approach to life's problems. That is, if they survive long enough to respond to life's problems.

How can it be that we are all so ignorant of the lives of children living within minutes of our own? We go into town and walk on the same streets. We sit next to each other on the transit system. We care for these children in our hospitals, only to send them back to unspeakable environments. How can we be so caring in our professional lives and so thoughtless in our private lives? Our society has become one culture, living inside another, with the only strong links between the two being the media and occasional physical interchanges so impersonal that they are best likened to encounters between competing species in the same jungle. And that subhuman analogy holds for "our" callousness as least as much as it holds for "their" assumed violence.

I don't begin to claim to know the lives these children live, but I can share the elements that can be seen from the outside if I look with the eyes of concerned parenthood rather than those of threatened affluence.

Violence is one aspect of the difference between the culture of inner-city youth and that of our cherished, middle-class children. Drug abuse is another, although surely here we must begin to realize that the comfortable separation between "our" culture and "theirs" may be crumbling.

Well, what of drug abuse and trafficking? Why shouldn't inner-city children use and sell drugs? What other roads to success, or at least escape, do they have? They can't all be sports stars, and they are unlikely to do well in the school systems that exist today. Education has hardly been a national priority, so why should it be a priority within poverty-level communities? And what reward is there for the children from these communities who do manage to do well in school? Nothing that our society appears to value. Not money, not the girl, not the material objects that connote success.

These children are certainly capable of learning, for they have learned media's lessons well. They have



learned that material possessions are of great importance in our society. The latest desirable object is at their visual beck-'n-call. So close they can taste it, hold it or wear it—but not by working their tails off in school or at the local Burger King. The simple ways they can get much of what you and I have—and what we through the media have taught them to envy—is to steal these things or sell drugs to each other and to our children. Not only do these activities provide immediate reward, but they provide both status and revenge against us, the “have’s.”

Sex and sexual relations are also media-distorted values, unbalanced by counteracting social norms. Inner-city adolescent girls’ worth is defined by their degree of sexual desirability, activity and productivity. And so, these children make babies, very often without a clue of what parenting involves. They don’t have a sense of what to expect of a child or what a child needs at different ages, when to get a child medical care or even where to go to learn these things. Children’s worth in this subculture is often defined as if they were objects, symbols of male virility or female fertility, rather than individuals with personality and worth of their own.

An illustration might help make this distinction. Once while I was riding the subway system, two teen-aged boys and two teenaged girls looking between 14 and 16 years old got on the train. One of the girls was carrying a baby boy, dressed up like a doll. His adolescent mother sat next to me, with her friends nearby. One of the boys was teasing the other, who I assume was the baby’s father, saying that the baby was really his. This macho banter provoked good-natured joking with the mom.

Both parents appeared proud of their parenthood and their baby, but neither one talked to or interacted with him. He was hung over his mom’s shoulder. When he cried, a pacifier was popped into his mouth.

Obviously what I’m describing is a lack of extremely basic skills. These skills are readily teachable, if the commitment to teach them is there. Indeed, there are any number of creative inner-city programs with this goal. There are just not enough. Creative use of video and interacting computer games, for example, should be more fully explored and exploited. These steps could begin to redefine sexual and parental roles and at the same time have some impact on the significant public health problems of adolescent pregnancy, child abuse and infant mortality. But while

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important, they cannot make a dent in the hopelessness inner-city children must feel.

What value does life have for these children? Violence is one of the leading causes of death for impoverished urban male youth. A violent end and/or imprisonment is almost as commonplace for males in the inner city as it is in the movies.

Even our legal system has unintentionally helped to reduce the worth of a human life to gross and practical equivalences. An inner-city child’s family can obtain more money from his death, if it were accidentally caused by a health-care provider, than the child himself could provide in a lifetime of legal employment.

It isn’t that life has no value; it’s worse. All lives—even yours and mine—have a cold, monetary price tag. So why are we so shocked when these children don’t value our lives any more than their own or their neighbors’?

Resolving these complex polarities between inner-city culture and our own would take generations of commitment by a society notable for its fickle devotion to one and then another admirable cause, and its longstanding devotion to material well-being. It would certainly be easiest to acknowledge that this polarization exists and simply live with the fact that children in inner-city America live under physical, educational and health conditions similar to those of a less developed country—with the addition of violence and drug abuse. We could ignore the ethical implications of abrogating our responsibilities toward these children.

This would be easiest, except for the worrisome fact that this subculture’s proximity is inevitably, increasingly having an impact on our own lives and our children’s, in terms of crime and exploration of drugs. In very practical terms, if you and I do not attempt to alter the reality of the inner-city subculture, we are ensuring the deterioration of our own children’s culture.

I left my child abuse work in 1983. I missed immunology, and the first cases of transfusion-associated AIDS had just been reported. I felt that by spending a short time in AIDS, I could use my immunology training and would be able to tell my grandchildren I had done something useful in life. I sorely miscalculated just how overwhelming and how tenacious the human immunodeficiency virus (HIV) epidemic would prove to be.

Over the last seven years, when attending in immunology/infectious diseases, I have watched my HIV-related case load rise to at least three infected children at a time. These are children often ignored by the overworked and apprehensive county hospital nurses. These are infants, whose mothers may have already died of AIDS themselves, sometimes with no place to go, awaiting horrible deaths alone in their hospital rooms, with only a television turned on high volume over their cribs to keep them company.

During these years of public health-oriented AIDS research, I gave birth to my two daughters. Though they are “perfect,” of course, I realize that their future could potentially include the exploration of sex, infatuation with drugs, or finding “true love” with some boy with HIV in his genome. Thus HIV has become a very real threat to me as a mother, and as a pediatrician working in child health. (That doesn’t even touch upon my concerns about what it is likely to cost our health-care system, often at the expense of child health programs.)

I was recently recruited to set up an evaluation group within the National AIDS Information and Education Program (NAIEP) at CDC. NAIEP is the group responsible for the Public Health Service’s AIDS media campaign, the national AIDS Hotline, and the National AIDS Clearinghouse. HIV infection is having a major impact on the health of our society’s children, and for now, education is the only way we can do anything about it. Since our children’s hearts and minds belong to the

media, if we can show that media can be used effectively in AIDS prevention, then I figured we might have a shot at using media for other child health issues.

The prevention of HIV cannot be dissociated from the related problem of drug abuse, however. Having sex with someone infected through drug abuse likely represents the greatest threat for HIV transmission to your children and mine, as well as to inner-city adolescents. This risk is already large for inner-city children in some areas. It is unclear how great it will become for your and my children.

The problems of spiralling health care costs and maldistribution of health care are not unique to child health, but their impact upon pediatric preventive and acute care cannot be overestimated. One factor is certainly the technological advances that enable us to treat, if not cure, formerly fatal conditions.

As the parent of a premie, I would be one of the first to applaud the technical advances that increasingly improve premature babies' chances of survival. But as someone working in public health, I find it disquieting to see us spend hundreds of thousands of dollars to keep premature infants alive when in some states there are not adequate monies to provide relatively inexpensive and cost-effective vaccinations to far larger numbers of children.

As a pediatrician, I cannot help questioning our actions when we maintain a child's life—be that child premature or with some complex or unsolvable disorder—who has little chance of a meaningful life, or sometimes, a chance of nothing more than a prolongation of his pain and his parents' agony. I have more than once watched an infant in obvious pain, with virtually no chance of leaving the hospital, and wondered what in hell modern medical care was all about. We physicians, and our society in general, appear to be much better at conquering technical challenges than facing the ethical dilemmas we create in the process, for not only ourselves but also those we purport to be helping.

In one respect our approach is tacit. Those that can pay—be it through private or government sources—get acute care. The quality of that care may be highly variable but that variability usually cannot be directly attributed to financial constraints. Preventive care may or may not fall through the economic cracks. Never mind that the

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impact of preventive medicine on morbidity and mortality may be far greater than that due to acute care. Preventive medicine is treated as an afterthought. "Acute care" is how we classically define medicine. It's so much more exciting. Its impact is so much more tangible.

But acute care has become prohibitively expensive. My personal thermometer of this problem is that our own family's health insurance costs have increased over four-fold in three years. Those payments would have made a big dent in school tuitions. It is not a good sign when affluent, medically oriented people question the relative cost-benefit ratio of insuring their own health compared to other family needs (or wants).

Outside our personal lives, we physicians are faced with stark, financially-based inequities. For example, during rounds one day, our fellow noted that one boy with acute myelogenous leukemia had an extraordinary number of siblings. I responded that I was glad to hear it; one might be a bone marrow match. He quietly informed me that there was no plan to crossmatch them. The family didn't have the money for a transplant.

While the relative merits of a bone marrow transplant for this diagnosis could be debated, most of us would agree that this child was not going to receive optimal treatment. Most importantly, the decision was based on his family's financial status, not medical factors.

I began this article by acknowledging that I had no answers to these critical, child health problems. That is not to say that solutions do not exist. If I didn't believe they existed, I wouldn't continue to work in public health. But solving these problems requires a pro-

longed commitment, and giving up many things that we enjoy.

Improvements will not likely be obvious in one or even two generations, let alone one or two cycles of political elections. But a prolonged commitment is not unusual in the history of this country. We have shown a similar commitment to democracy, capitalism, war and the right to bear arms.

Would it not be incredibly mature of us to make children, all children, our highest priority? Not AIDS yesterday, drug abuse today, the environment tomorrow. All of these are important problems that have to be dealt with—after all, these all have an impact on our children—but children must come first. Shame on all of us each time a child isn't given a chance to fulfill the potential with which he or she was born. What a waste to our society and to ourselves.

I'll finish now by returning to parental anxiety. Fortunately for us all, anxiety surfaces for only limited periods of time, usually during a specific event or crisis: our child is hospitalized, we're called in for a school conference, a friend's adolescent commits suicide. In between, we must fit our parental responsibilities into an exhausting schedule.

We may pay lip service to our children being our highest priority, but our actions and thoughts often lag behind. As spontaneously as we do this priority shuffling when it concerns our own children, we even more easily—far more easily—put our social parental responsibilities out of sight and mind.

Children may be vocal in our homes, but the children of our society are politically mute. Like mental patients, they are in no condition to lobby for their needs. They depend on us for that. If we were only to shift our parental attentions to a higher level, a higher priority, our impact could be incredible. □

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Obstacles

The Story of One Child With AIDS

by Robert Sege

Anita and her mother sat at a long white table in the hospital cafeteria, their heads bowed in prayer. They were thanking God for their food.

As I walked over to join them, I remembered the first conversation I had had with Anita's mother last winter in the emergency room. Anita had had a cold for weeks, with a hacking cough that shook her frail two-year-old frame and just wouldn't go away. She was panting for breath, not quite keeping up with her body's needs for air. The tests

we performed demonstrated that she had pneumocystis pneumonia—one of the indicator infections for AIDS.

"God's punishing me, Dr. Sege; he's gonna kill my baby to punish me," Susan had said when I had told her that Anita had AIDS. Now, a year later, she was still trying to make it up to God so that her baby would survive.

When we first met, Susan was pregnant and her husband was in jail. She told me that her husband used drugs, and she was sure he had transmitted the disease to their kids. She herself

had never used anything, and so it couldn't be her, she told me.

Every day Susan would visit only in the afternoon because she said that her obstetrician was seeing her mornings for a problem with the pregnancy. But just about every evening of Anita's long hospitalization, Susan was there with her, loving her. Susan asked me all the right questions—the ones with no answers: "Will she make it, is she going to be okay, will she ever get better, will she live to grow up?"

After a prolonged hospitalization, Anita recovered enough to go home. She needed lots of help, including medicines and nutritional supplements, and a visiting nurse. Susan's concern at that time was focused on her privacy. "I don't want no nosy neighbors getting any ideas." In all the follow-up orders I wrote, I was careful to refer to her daughter's condition obliquely.

Over the ensuing months, Susan learned about medical research. At that time, AZT was available only as part of a research protocol; it had not yet been FDA approved for children. The AIDS program at our hospital was conducting a study, but Susan was apprehensive: "My daughter shouldn't be a guinea pig. Why can't they just give her the medicine?"

Her relationship with the study was always strained—she would miss appointments, be late, fail to return phone calls. But Anita always received her AZT, and continued to grow and develop. And whenever she was sick, I would hear about it, and Susan would make the trip across town to get her treated.

Periodically, Anita would come close to losing her eligibility for the study—usually because she had missed an appointment. Susan would promise to do better, and, for a time, things would be smoother. She did not want her daughter to miss out on the medicine that was keeping her well.

One day last summer my beeper went off. It was Susan on the phone, again distressed and angry. "Dr. Sege, they want to do some experiment on my daughter." The daughter she had been carrying when I first met her had been born, and the doctors there wanted to enroll her in a study of perinatal dosing of AZT to children at risk. In the end, Susan decided not to enroll newborn Heidi in this study. But she always carried a germ of doubt about that decision, more guilt on top of the terrible load she already bore.

Several months later, I gained some insight into Susan's particular ambivalence about research studies, when I

spoke to her mother. Susan didn't quite trust white doctors and their research, she explained, because of what her father used to tell her. They were from the South, and had heard about the infamous Tuskegee study—in which black men with syphilis were allowed to suffer the ravages of the disease in order to complete a “natural history” study, despite the discovery of penicillin. She knew that times had changed and we weren't like those doctors, but she never could quite trust us.

There was more trouble when Heidi was born. Heidi was born addicted to methadone, and suffered the prolonged agony of withdrawal during her first weeks of life. Those daily doctors' visits during the pregnancy actually turned out to be visits to the methadone maintenance clinic. Although Susan had not used illicit drugs during her pregnancy, her compliance with the clinic regimen had led to her newborn daughter's addiction.

Because of her daughter's addiction, the state social service team was automatically called to investigate the family—something Susan felt was an invasion of her privacy. From her perspective, the medical establishment had given her methadone during her pregnancy, was keeping her newborn in the hospital for weeks because of the methadone, wanted to experiment on this child, and now was sending spies into her home. Not exactly optimal conditions for building a therapeutic alliance.

In the meantime, her husband was out of jail, but still without a job. They had no money to pay their utility bills. We were able to convince the gas company not to turn off their heat, but the phone company was not so easily persuaded. This made our job monitoring Anita and now Heidi that much more difficult. When we needed to communicate with them, we'd send a letter or phone Susan's mother. Her missed appointments became more of a problem, because it was so hard to reach her to reschedule them.

Heidi missed many of her initial appointments, and fell far behind on her shots. Every time I spoke with Susan on the phone, she told me how well Heidi was doing, but she never brought her in. Finally, when Susan was in for one of Anita's visits, I confronted her about this. I explained to her that Heidi wasn't even getting the kind of care a child without HIV exposure would get. I asked her if she was afraid that I'd find out that Heidi also had AIDS, if that was why she had missed her visits.

Susan started to cry, quietly at first, then sobbing. She cried for a few minutes, and then we talked some more. Heidi made it to all her appointments after that, and caught up on her shots. So far, thankfully, she hasn't shown any signs of AIDS.


Anita's missed appointments, however, were a chronic problem and we had to begin talking to our child protection team. At what point did missed appointments endanger Anita's health and constitute medical neglect? All winter long we debated this issue fiercely. If we filed a petition with the state alleging medical neglect, would we just be making ourselves feel better, or would we be helping the child? We were concerned that we would lose Susan's trust, and the children would drop out of sight altogether.

For months, we drew lines in the sand—if the children didn't show up for this appointment, then we'd have to file. We'd speak to Susan about the problem, and she'd get angry with us, but things would be better for a little while.

We've tried to build a safety net around her: visiting nurses for Anita when she's out of the hospital, home health aides, taxi vouchers. I've tried to get Susan to see a doctor in her community—someone I remember from medical school. But she doesn't want to see a doctor in her neighborhood, doesn't want the nurses “looking down at her.” She doesn't want anyone to know her daughter has AIDS. Besides, she says, she doesn't need the help. She's raised her family so far.

Last winter was about a year since Anita had initially been diagnosed with AIDS. AZT, PCP prophylaxis and nutritional supplements have helped keep her home with her family, where she is growing and developing normally. As children live longer with AIDS, their care becomes more chronic and preventative. Anita needs to visit the hospital frequently: for pentamidine infusions, for blood tests to monitor for AZT side effects, and to be examined for early signs of infection. Unlike other toddlers with fevers, Anita is rarely treated by phone—she usually needs to be examined, and often admitted for brief courses of parenteral antibiotics while we sort out what's wrong with her.

But nothing is easy when you're poor. Susan has to maneuver through a bureaucratic morass to care for her family. For example, with taxi vouchers, the taxi must be called 24 hours in advance, and the taxi will only take the patient and her mother. The baby can't



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come along for the ride. When Susan couldn't arrange child care, Anita missed her appointment.

Despite these problems, our obligation to Anita was clear. While AIDS isn't curable, it is treatable. Usually, our interest in preserving Anita's health and her mother's love for her coincided. Sometimes, however, Susan simply couldn't cope.

Last summer, Susan was hospitalized for two weeks. Her husband and sister took care of the kids. When Susan was released from the hospital, she came home to find that Anita had fever and diarrhea, and had to be hospitalized.

At Susan's urging, we agreed to discharge her earlier than usual, with the understanding that she would need close follow-up.

But Anita failed to show up for her first follow-up visit. To make matters worse, in the meantime her stool culture had turned positive and we had no way of reaching the family. This time, we were unquestionably required to act.

We filed a complaint with our state Department of Social Services (DSS), accusing Anita's parents of medical neglect. We hoped they could provide the help Susan needed to get her kids in to see us when they needed to. I was nervous and anxious when we filed. Days passed and nothing happened. The weekend that we filed, the state received 85 complaints alleging child abuse, and they were overwhelmed.

When the DSS reached her, Susan was devastated. She called me, angrier than ever. I explained again that we had filed in order to ensure that Anita got the medical care she needed, and that we hoped the state would be able to help her. Susan wasn't buying any of it. She thought we were punishing her.

Although she now comes to her appointments on time, things have changed between us. Susan is less assertive with us, less protective of her privacy and her children. She has given up one more piece of her autonomy.

Anita has also given up, a little bit. The last time I saw her in the emergency room, she was febrile and a little dehydrated. Nevertheless, most kids her age still put up a fight when we come to draw blood or start an IV. Anita looked at her mother, looked at me, and, tentatively, held out her arm for the inevitable needle. Somehow, I wished she'd cried more.

lucky child with AIDS. Anita has a mother and father who are both alive and healthy; parents who are dedicated to caring for her. Many of the kids with AIDS aren't this lucky. I've taken care of several, each with his or her own story.

Three years ago, when I first met Anita, cases like hers were rare: AIDS presented a dramatic new diagnosis in children. Our methods for diagnosis and treatment were largely experimental, and the prognosis was uncertain. Partly because it was so exotic, we were caught with our defenses down and the tragedy touched us especially deeply.

In contrast, one weekend last September, one-third of the inpatients on our team had HIV-related problems. For most of these youngsters, this hospitalization represented one in a long series of admissions and outpatient visits. Each child and family was well known to the medical and nursing staffs on the ward.

Childhood AIDS has undergone the subtle transition to becoming another of the chronic debilitating and ultimately terminal diseases of childhood. The tragedy still lurks just below the surface, but the comfortable rituals of medical care protect us from some of the shock.

As we get to know the families, though, their pain seeps in, and we join the emotional roller-coaster ride of caring for a chronically ill child. Together with their parents, we watch the children grow and develop. Sometimes, Susan and I have talked about nursery school for Anita—something neither of us expected to ever discuss. But other times, we have had to discuss the possible causes of her continued failure to gain weight.

The WHO says there will be 10 million babies with AIDS by the year 2,000. Millions of families with AIDS. I can't really fathom it. I have no idea how we'll care for them all.

When I first decided to take Anita and her family into my continuity clinic, it was not without some hesitation. I was afraid that their care would be time-consuming and frustrating. It has been both of those things, but it has also taught me about myself, about our society, and about what it really means to be someone's doctor. And for all those lessons, as well as for the kisses she blows whenever we meet, I'll always be in Anita's debt. □

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The Etiology and Treatment of Childhood^{1,2}



Childhood is a syndrome that has only recently begun to receive serious attention from clinicians. The syndrome itself, however, is not at all recent. As early as the eighth century, the Persian historian Kidnom made reference to "short, noisy creatures," who may well have been what we now call "children." The treatment of children, however, was unknown until this century, when so-called "child psychologists" and "child psychiatrists" became common. Despite this history of clinical neglect, it has been estimated that well over half of all Americans alive today have experienced childhood directly (Seuss, 1983). In fact, the actual numbers are probably much higher, since these data are based on self-reports which may be subject to social desirability biases and retrospective distortion.

The growing acceptance of childhood as a distinct phenomenon is reflected in the proposed inclusion of the

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syndrome in the upcoming *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition*, or *DSM-IV*, of the American Psychiatric Association (1985). Clinicians are still in disagreement about the significant clinical features of childhood, but the proposed DSM-IV will almost certainly include the following core features:

1. Congenital onset
2. Dwarfism
3. Emotional lability and immaturity
4. Knowledge deficits
5. Legume anorexia

Clinical Features of Childhood

Although the focus of this paper is on the efficacy of conventional treatment of childhood, the five clinical markers mentioned above merit further clinical discussion for those unfamiliar with this patient population.

Congenital Onset: In one of the few existing literature reviews on childhood, Temple-Black (1982) has noted that childhood is almost always present at birth, although it may go undetected for years or even remain subclinical indefinitely. This observation has led some investigators to speculate on a biological contribution to childhood. As one psychologist has put it, "We may soon be in a position to distinguish organic childhood from functional childhood" (Rogers, 1979).

Dwarfism: This is certainly the most familiar clinical marker of childhood. It is widely known that children are physically short relative to the population at large. Indeed, common clinical wisdom suggests that the treatment of the so-called "small child" (or "tot") is particularly difficult. These children are known to exhibit infantile behavior and display a startling lack of insight (Tom and Jerry, 1967).

Emotional Lability and Immaturity: This aspect of childhood is often the only basis for a clinician's diagnosis. As a result, many otherwise normal adults are misdiagnosed as children

¹The author would like to thank all the little people.

²This research was funded in part by a grant from Bazooka Gum.

and must suffer the unnecessary social stigma of being labeled a “child” by professionals and friends alike.

Knowledge Deficits: While many children have IQs within or even above the norm, almost all will manifest knowledge deficits. Anyone who has known a real child has experienced the frustration of trying to discuss any topic that requires some general knowledge. Children seem to have little knowledge about the world they live in. Politics, art, and science—children are largely ignorant of these. Perhaps it is because of this ignorance, but the sad fact is that most children have few friends who are not, themselves, children.

Legume Anorexia: This last identifying feature is perhaps the most unexpected. Folk wisdom is supported by empirical observation—children will rarely eat their vegetables (see Popeye, 1957, for review).

Causes of Childhood

Now that we know what it is, what can we say about the causes of childhood? Recent years have seen a flurry of theory and speculation from a number of perspectives. Some of the most prominent are reviewed below.

Sociological Model: Emile Durkheim was perhaps the first to speculate about sociological causes of childhood. He points out two key observations about children: 1) the vast majority of children are unemployed, and 2) children represent one of the least educated segments of our society. In fact, it has been estimated that less than 20 percent of children have had more than a fourth grade education.

Clearly, children are an “out-group.” Because of their intellectual handicap, children are even denied the right to vote. From the sociologist’s perspective, treatment should be aimed at helping assimilate children into mainstream society. Unfortunately, some victims are so incapacitated by their childhood that they are simply not competent to work. One promising program (Spanky and Alfalfa, 1978) has trained victims of severe childhood to sell lemonade.

Biological Model: The observation that childhood is usually present from birth has led some to speculate on a biological contribution. An early investigation by Flintstone and Jetson (1939) indicated that childhood runs in families. Their survey of over 8,000 American families revealed that over half contained more than one child. Further investigation revealed that even most



non-child family members had experienced childhood at some point. Cross-cultural studies (e.g., Mowgli and Din, 1950) indicate that familial childhood is even more prevalent in Asia. For example, in Indian and Chinese families, as many as three out of four family members may have had childhood.

Impressive evidence of a genetic component of childhood comes from a large scale twin study by Brady and Partridge (1972). These authors studied over 106 pairs of twins, looking at concordance rates for childhood. Among identical or monozygotic twins, concordance was unusually high (.92), i.e., when one twin was diagnosed with childhood, the other twin was almost always a child as well.

Psychological Models: A considerable number of psychologically-based theories of the development of childhood exist. They are too numerous to review here. Among the more familiar models are Seligman’s “learned childishness” model. According to this model, individuals who are treated like children eventually give up and become children. As a counterpoint to such theories, some experts have claimed that childhood does not really exist. Szasz (1980) has called “childhood” an expedient label. In seeking conformity, we handicap those whom we find unruly or too short to deal with by labeling them “children.”

Treatment of Childhood

Efforts to treat childhood are as old as the syndrome itself. Only in modern times, however, have humane and systematic treatment protocols been applied. In part, this increased attention

to the problem may be due to the sheer number of individuals suffering from childhood. Government statistics (DHHS) reveal that there are more children alive today than at any time in our history. To paraphrase P.T. Barnum: “There’s a child born every minute.”

The overwhelming number of children has made government intervention inevitable. The 19th century saw the institution of what remains the largest single program for the treatment of childhood—so-called “public schools.” Under this colossal program, individuals are placed into treatment groups based on the severity of their condition. For example, those most severely afflicted may be placed in a “kindergarten” program. Patients at this level are typically short, unruly, emotionally immature and intellectually deficient. Given this type of individual, therapy is of necessity very basic. The strategy is essentially one of patient management and of helping the child master basic skills (e.g., finger-painting).

Unfortunately, the “school” system has been largely ineffective. Not only is the program a massive tax burden, but it has failed even to slow down the rising incidence of childhood.

Faced with this failure and the growing epidemic of childhood, mental health professionals are devoting increasing attention to the treatment of childhood. Given a theoretical framework by Freud’s landmark treatises on childhood, child psychiatrists and psychologists claimed great successes in their clinical interventions.

By the 1950s, however, the clinicians’ optimism had waned. Even after years of costly analysis, many victims remained children. The following case (taken from Gumbie and Pokey, 1956) is typical:

Billy J., age 8, was brought to treatment by his parents. Billy’s affliction was painfully obvious. He stood only 4’3” high and weighed a scant 70 pounds, despite the fact that he ate voraciously. Billy presented a variety of troubling symptoms. His voice was noticeably high-pitched for a man. He displayed legume anorexia and, according to his parents, often refused to bathe. His intellectual functioning was also below normal—he had little general knowledge and could barely write a structured sentence. Social skills were also deficient. He often spoke inappropriately and exhibited “whining behavior.” His sexual experience was nonexistent. Indeed, Billy considered women “icky.”

His parents reported that his condition had been present from birth, improving gradually after he was placed in a school at age 5. The diagnosis was "primary childhood." After years of painstaking treatment, Billy improved gradually. At age 11, his height and weight have increased, his social skills are broader, and he is now functional enough to hold down a "paper route."

After years of this kind of frustration, startling new evidence has come to light which suggests that the prognosis in cases of childhood may not be all gloom. A critical review by Fudd (1972) noted that studies of the childhood syndrome tend to lack careful follow-up. Acting on this observation, Moe, Larrie, and Kirly (1974) began a large-scale longitudinal study. These investigators studied two groups. The first group comprised 34 children currently engaged in a long-term conventional treatment program. The second was a group of 42 children receiving no treatment. All subjects had been diagnosed as children at least four years previously, with a mean duration of childhood of 6.4 years.

At the end of one year, the results confirmed the clinical wisdom that childhood is a refractory disorder—



virtually all symptoms persisted and the treatment group was only slightly better off than the controls.

The results, however, of a careful 10-year follow-up were startling. The investigators (Moe, Larrie, Kirly, and Shemp, 1984) assessed the original cohort on a variety of measures. General knowledge and emotional maturity were assessed with standard measures. Height was assessed by the "metric system" (see Ruler, 1923), and legume appetite by the Vegetable Appetite Test (VAT) designed by Popeye (1968). Moe et al. found that subjects improved uniformly on all measures. Indeed, in

most cases, the subjects appeared to be symptom-free. Moe et al. report a spontaneous remission rate of 95 percent, a finding that is certain to revolutionize the clinical approach to childhood.

These recent results suggest that the prognosis for victims of childhood may not be so bad as we have feared. We must not, however, become too complacent. Despite its apparently high spontaneous remission rate, childhood remains one of the most serious and rapidly growing disorders facing mental health professionals today. And, beyond the psychological pain it brings, childhood has recently been linked to a number of physical disorders. Twenty years ago, Howdi, Doody, and Beauzeau (1965) demonstrated a six-fold increased risk of chicken pox, measles, and mumps among children as compared with normal controls. Later, Barby and Kenn (1971) linked childhood to an elevated risk of accidents—compared with normal adults, victims of childhood were much more likely to scrape their knees, lose their teeth, and fall off their bikes.

Clearly, much more research is needed before we can give any real hope to the millions of victims wracked by this insidious disorder. □

References

- American Psychiatric Association (1985). *The diagnostic and statistical manual of mental disorders, 4th edition: A preliminary report*. Washington, D.C.: APA.
- Barby, B., & Kenn, K. (1971). The plasticity of behavior. In B. Barby & K. Kenn (Eds.), *Psychotherapies R Us*. Detroit: Ronco Press.
- Brady, C., & Partridge, S. (1972). My dad's bigger than your dad. *Acta Eur. Age*, 9, 123-126.
- Flintstone, F., & Jetson, G. (1939). Cognitive mediation of labor disputes. *Industrial Psychology Today*, 2, 23-35.
- Fudd, E. J. (1972). Locus of control and shoe-size. *Journal of Footwear Psychology*, 78, 345-356.
- Gumbie, G., & Pokey, P. A cognitive theory of iron smelting. *Journal of Abnormal Metallurgy*, 45, 235-239.
- Howdi, C., Doodi, C., & Beauzeau, C. (1965). Western civilization: A review of the literature. *Reader's Digest*, 60, 23-25.
- Moe, R., Larrie, T., & Kirly, Q. (1974). State childhood vs. trait childhood. *TV Guide*, May 12-19, 1-3.
- Popeye, T.S.M. (1957). The use of spinach in extreme circumstances. *Journal of Vegetable Science*, 58, 530-538.
- Popeye, T.S.M. (1968). Spinach: A phenomenological perspective. *Existential Botany*, 35, 908-913.
- Rogers, F. (1979). *Becoming my Neighbor*. New York: Soft Press.
- Ruler, Y. (1923). Assessing measurement protocols by the multi-method multiple regression index for the psychometric analysis of factorial interaction. *Annals of Boredom*, 67, 1190-1260.

- Spanky, D., & Alfalfa, Q. (1978). Coping with puberty. *Sears Catalogue*, 45-46.
- Seuss, D. R. (1983). A psychometric analysis of green eggs with and without ham. *Journal of Clinical Cuisine*, 245, 567-578.
- Temple-Black, S. (1982). Childhood: An ever-so sad disorder. *Journal of Precocity*, 3, 129-134.
- Tom, C., & Jerry, M. (1967). Human behavior as a model for understanding the rat. In M. de Sade (Ed.), *The Rewards of Punishment*. Paris: Bench Press, 1967.



Further Readings

- Joe, G.I. (1965). Aggressive fantasy as wish fulfillment. *Archives of General MacArthur*, 5, 23-45.
- Leary, T. (1069). Pharmacotherapy for childhood. *Annals of Astrological Science* 67, 456-459.
- Kissoff, K.G.B. (1975). Extinction of learned behavior. Paper presented to the Siberian Psychological Association, 38th Annual Meeting, Kamchatka.
- Smythe, C. & Barnes, T. (1979). Behavior therapy prevents tooth decay. *Journal of Behavioral Orthodontics*, 5 79-89.
- Potash, S., & Hoser, B. (1980). A failure to replicate the results of Smythe and Barnes. *Journal of Dental Psychiatry*, 34, 678-680.
- Smythe, C. & Barnes, T. (1980). Your study was poorly done. A reply to Potash and Hoser. *Annual Review of Aquatic Psychiatry*, 10, 123-156.
- Potash, S. & Hoser, B. (1981). Your mother wears army boots: A further reply to Smythe and Barnes. *Archives of Invective Research*, 56, 570-578.
- Smythe C. & Barnes, T. (1982). Embarrassing Moments in the sex lives of Potash and Hoser: A further reply. *National Enquirer*, May 16.

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An 1832 print by Tregear. Hand-colored prints like this were sold on the streets in London. It is among a collection of rare medical prints, drawings, watercolors and books donated to HMS by Robert W. Ganz '24.





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